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TRANSACTIONS

OF THE

Massachusetts Horticultural Society

FOR

THE YEAR 1858.

From EBEN. WIGHT, Corresponding Secretary.

BOSTON:
PRINTED BY HENRY W. DUTTON & SON,
Transcript Building, Congress Street.
1859.

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REPORTS.

REPORT OF THE COMMITTEE ON GARDENS,

For the Year 1858.

BY F. LYMAN WINSHIP, SECRETARY.

On Monday, January 4, the Committee visited the Grapery of M. H. Simpson, Esq., at Saxonville. The Committee have been desirous of continuing their visits to this place for the purpose of watching Mr. Simpson's novel process of growing grapes, during the most unfavorable season of the year. The price of grapes must be somewhat enhanced on account of the additional cost of cultivation during the winter months, but the gratification they afford to persons suffering from illness is certainly compensation sufficient for the increase in cost.

The Committee found in the first or advanced house, the crop of grapes in as favorable condition as those of previous years. Mr. Simpson has heretofore allowed his vines to bear too heavily, and acting upon a former suggestion of the Committee, he had this season thinned the vines so thoroughly, as to leave but about seven pounds to each vine.

The grapes, consisting of Black Hamburgh, Syrian, Frontignan, Zinfindal, Muscat of Alexandria, Cannon Hall, and Black Prince, were, to judge from their *appearance*, well ripened, having been started about five months previously.

The vines in the adjoining house were just bursting into bloom, and gave promise of a good crop. But for the constant watchfulness of Mr. Burns, the gardener, Mr. Simpson would not be enabled to attain such eminent success, as every one familiar with grape culture at this season of the year, well knows that constant attention is required day and night.

On Wednesday, July 14, the Committee visited the estate of John D. Bates, Esq., at Swampscot, a general description of which was given by the Chairman of the Garden Committee, J. S. Cabot, Esq., on the occasion of their visit, June 23, 1853. Since the former visit of the Committee the grounds have been improved with such surprising rapidity, as to almost obliterate every trace of what they were at that time. The estate has been enlarged and the addition artistically laid out under the immediate supervision of the proprietor. The clumps and belts of trees have from time to time been judiciously thinned, having been planted with that object in view, and their thrifty and luxuriant appearance betoken great care and

attention. A charming lodge has been built at the gateway, and, from the moment we entered the avenue, the same unmistakable neatness and order was observable throughout the extent of the grounds. The garden was in capital order and the several products bore evidence of skilful cultivation. The Committee noticed a well-arranged house and yard for poultry, and Dr. Wight, one of the Committee, whose good judgment in these matters is proverbial, declared that Mr. Bates had designed a *model* poultry house. So good is the plan in all its arrangements that copies of it have been taken by several Europeans, who have visited the place.

Of the many varieties of trees the Committee particularly noticed the Norway Maples and Scotch Pines as being well adapted to seashore cultivation.

The weather was not as favorable as could have been desired, and on that account the examination of the premises was somewhat hurried, many objects of interest being cursorily examined, but the general thriftiness is sufficient proof that vegetation will make rapid strides even under the influence of the exposed locations of our seashore. The Committee were much pleased with their visit, and are under obligations for the courtesy extended by the proprietor.

On Thursday, July 22, the Committee, by invitation of Henry W. Fuller, Esq., Treasurer of the Board of Trustees, visited Woodlawn Cemetery, for the purpose of noticing the improvements since their visit in 1857. The Committee were surprised to find so great an improvement in so short a time. The avenues had been extended, and new views obtained, showing that the best portion of the grounds is as yet undisposed of. The Cemetery now contains upwards of one hundred acres, but so admirably arranged as to lead the visitor to form an estimate of double the extent of ground while passing through the avenues. The same good taste which was noticeable on a former visit still characterizes the whole, whether in pathways, edging or the keeping of the lawns. The services of Mr. Cruickshank are still retained, and to whose good taste, Mr. Fuller accorded all the praise that any superintendent could desire. During a severe shower the Committee were most agreeably entertained, and several remarks made by distinguished gentlemen, in relation to the founding of cemeteries, more particularly in this country, of the rise and progress of Mount Auburn, Laurel Hill, Greenwood, and, though by no means the least, Woodlawn.

On the same day the Committee called on Mr. Loomis in Chelsea, a person well known as a contributor of many choice specimens of pears. The garden consists of about one acre, which is closely planted with pear trees, both on pear and quince stocks, and in a very thriving condition. The garden was originally several feet below the level of the street, but has been filled with rubbish for drainage, over which was placed good soil mixed with mud from the salt marsh. In this were planted pear and plum trees, but notwithstanding the influence of salt soil, the plum trees were troubled with that common pest the black wart. The fruit on the pear trees gave evidence that the trees were well cared for.

On 19th of August the Committee visited Mount Auburn, in which the

Society still retains an interest. The neatness and care displayed on all sides, under the judicious arrangement of the superintendent (Mr. Mann,) shows that a decided improvement is going on from year to year. So much has been said and written in regard to Mount Auburn, that any further notice at this time is hardly necessary.

On their return the Committee called at William Bacon's, Esq, Roxbury, where they had the pleasure of witnessing the result of Mr. Bacon's successful cultivation of pear trees. Mr. Bacon is an enthusiast of indomitable will (would that we had more) in pear culture, and is determined that his trees *must* make their fullest growth, *must* be perfect of the kind, and his fruit *must* be the largest and finest.

The original ground was salt marsh, a mere quagmire, having all the requisites to entitle it to condemnation as a nuisance. If a man is deserving of praise who makes "two blades of grass to grow where but one grew before," Mr. Bacon is certainly to be commended for reclaiming from a mere cess pool, some two acres of as valuable soil as can be found in this country.

The garden is situated several feet below the street level, through which the city sewerage passes. Of this Mr. Bacon took advantage, conveying it through his grounds by two channels, and with a dam at the lower end of the garden he is able to retain a constant supply of valuable manure, which from time to time has been used, and the soil is now several feet deep. This manure is gathered in such quantities that he has a large surplus to dispose of.

Mr. Bacon entertained the Committee with a very interesting history of his pear culture from its commencement, the obstacles he overcame, notwithstanding the *determined* predictions of his friends, who foresaw (as they thought) and forewarned.

There are many similar locations where advantage might be taken of sewerage, which is allowed to run to waste, and a thousand fold might be returned for every dollar of outlay. It needs but the energy that has so signally characterized Mr. Bacon to secure a garden unsurpassed for fruit culture, but it must be borne in mind that without good drainage, all may result in disappointment.

After leaving Mr. Bacon's the Committee went to R. W. Ames's fruit garden at Roxbury, and they regret that the owner was absent. The land is similar to that of Mr. Bacon's, and the trees gave evidence of the advantage of a portion of salt soil. The Committee noticed, and could not account for, the cracking of several varieties of pears, Beurré Diel, &c., while the fruit on the trees belonging to Mr. Bacon, on the opposite side of the street, were entirely free from blight. Mr. Ames's trees were in a flourishing condition, and of fine shape, though somewhat crowded.

The Committee then visited the garden of Francis Dana of Roxbury, and took a hurried view of the premises. Mr. Dana is a persevering cultivator of seedling pears, and has introduced several that are very promising. Few of our amateurs in raising seedlings have been as fortunate as Mr. Dana, and we trust that the Society may one day possess the secret of his success in the propagation.

The Committee also visited the garden of Ariel Low, and the same thrift and order were observable, that were noticed by the Committee of the previous year.

The estates of Messrs. T. D. Anderson, Jona. French, A. Bowditch, and William Wales, were visited, and the Committee found them in as fine a condition as on their previous visits.

The last visit on the same day to the homestead of Hon. Samuel Walker, Chairman, was somewhat hurried on account of the lateness of the hour. The pear trees on which Mr. Walker relies for his specimen fruit are there located. The Vicar of Winkfield and Flemish Beauty were exceedingly well fruited. Of the former variety, Mr. Walker is one of the most successful cultivators, and he is equally successful in the ripening. A fine collection of seedling Phloxes and several choice flowering plants were noticed by the Committee, who were confident that notwithstanding the attention Mr. Walker has been obliged to bestow upon the cultivation of the pear, caused by the constant increased demand for that variety of fruit trees, he has not neglected his first love, that of flowers.

A nursery of Pear Trees, a short distance from the mansion, was also inspected by the Committee, where they saw the successful result of underdraining and deep trenching in the cultivation of pear stocks. Of the fifteen thousand, not five per centum had been lost, and the trees gave evidence of a healthy and most luxuriant growth, and at the time of budding they were equally successful.

In closing this Report, the Committee would state that no applications were made for official visits, in conformity to the rules of the Society, therefore no premiums can be awarded, but the Committee recommend the following gratuities :—

To John D. Bates, Esq., for the excellent taste everywhere displayed on his grounds, the judicious adaptation of things to places, and the uniform neatness as well as the thrifty growth and beauty of his ornamental trees, especially Pines, a gratuity of $20 00

To William Bacon, Esq., for the healthy growth of his Pear Trees, and for his indefatigable industry and economy in the cultivation of Pears, ... 15 00

To Samuel Walker. Esq., for the successful cultivation and neatness of his Pear Nursery, ... 15 00

REPORT OF THE COMMITTEE ON FLOWERS,

For the Year 1858.

BY EDWARD S. RAND, JR., CHAIRMAN.

Seldom has there been a year when the exhibitions have been so good under so many discouraging circumstances: the season was late, the early summer damp and cold, and particularly unfavorable to flowers, and yet, if not improved, the exhibitions have not been inferior to those of past years.

At the quarterly meeting it was decided to open the hall for premium exhibitions but once a month, a course which it was thought might be of advantage by giving better and fuller displays both of flowers and fruit; the success of this measure is questionable, yet a further trial, at least for another year, is to be recommended. It was productive of one disadvantage however; the perfection of certain classes of flowers was often past before the day arrived on which the prizes were to have been awarded; for instance, the premium day for Aquilegias and for Pinks was the third Saturday in June: on that day the aquilegias had been past their prime for a week, and the pinks were just shooting into bud, so the prize for one had to be omitted and for the other delayed some weeks.

The great feature of the season was the Rose Show, which was a complete success; a more beautiful exhibition could not have been desired; every part of the Society's Hall was occupied by stands or bouquets of roses both of the choicer and more common varieties; the perpetual and moss roses were particularly fine, and the Committee can but feel that such a show should be yearly continued, and contributors be encouraged by a liberal offer of premiums.

On the day appointed for awarding the Camellia prizes there were none exhibited which, in the opinion of the Committee, were worthy of the prizes, and they were accordingly withheld.

The show of Ericas has been particularly fine during the last season, and the plants showed more care in growing and greater profusion of bloom.

Of Epacris. the display was small, but the varieties were fine and the plants well grown and in profuse bloom.

Greenhouse Azaleas far surpassed those of any former year; the specimen plants gave evidence of careful training, while the abundance of bloom showed rich culture and well directed care. Some of the plants were such masses of bloom that the foliage was completely hidden; the standards were very beautiful and well grown, though to many, a well-bushed plant, showing a mass of flower, is a far prettier object.

Great advance has also been made in Pelargoniums, many new varieties have been exhibited, and some beautiful specimen plants. The two chief contributors have been William C. Strong, and Thomas G. Whytal.

Fuchsias have been exhibited of very large size; F. Venus de Medicis seems particularly adapted for a specimen plant by its rich foliage and fine

habit. Etoile de Nord, Fair Oriana, and Souvenir de Chiswick are most decided acquisitions. The chief contributors have been H. H. Hunnewell, William C. Strong, and Thomas G. Whytal.

Calceolarias have shown no decided marks of improvement, and the same may be said of Cinerarias, if we except a few new seedlings not yet proved.

The displays of new greenhouse plants have been limited, but great progress has been made in fine specimen plants. Cissus discolor seems well adapted for a specimen, and very well trained plants have been shown by H. H. Hunnewell, and Messrs. Hovey.

Hyacinths were very good, and were displayed in variety by Joseph Breck, and R. M. Copeland.

Tulips were good, better than in former years, but there is much room for improvement.

Pansies were inferior to last year.

Of Hawthorns and Hardy Azaleas, the display was small.

Shrubby Pæonies were fine; there is but little progress made, the exhibition being about the same year after year, but always good.

Some new and showy varieties of Herbaceous Pæonies have been exhibited by Messrs. Hovey, Wilder, and Breck; the show was fully equal to any of previous years.

Aquilegias were inferior; the flowers are not as fine as those shown a few years ago; and too little attention is paid to this beautiful flower.

Pinks have not improved; there is too little marked difference in varieties, too little variety in the blooms; in the prize stands of the present year, containing each six named varieties, it would have been difficult to have selected two blooms bearing well defined distinguishing marks.

Herbaceous plants have in general done well, but we notice little new.

Spiræas have been displayed in great variety; S. callosa Fortunii is a very valuable acquisition. Summer and Autumn Phloxes have been very fine; some new varieties have been introduced; and fine seedlings exhibited by Samuel Walker. There seems to exist a great confusion between the early and late blooming varieties; a difficulty of distinguishing them exists which we hope soon to see remedied.

Carnations and Picotees have been very good; the best have been shown by W. J. Underwood, and Messrs. Hovey.

Rhododendrons have been shown in great variety; attention seems to be awakened to this beautiful class of plants, and we have great hopes that the future will show great improvements.

Hollyhocks have been very fine and bid fair to become a popular flower.

Balsams were very poor.

A fine collection of Petunias was shown by the Messrs. Hovey.

Annuals have in dry soils done well, but as a general thing the season has been too wet. There were no Antirrhinums exhibited which, as a collection, are worthy of special notice; some individual spikes of bloom were very good. In the cultivation and attention paid to this flower, there seems to be a retrograde movement.

Asters were about as good as on previous years. Some beautiful little

Ranunculus flowered Asters were exhibited by W. J. Underwood; it is a neat *petite* variety.

Stocks were inferior; large exhibitions were made, but the colors were very dull and unattractive.

Verbenas have been shown in great variety, but no seedlings of merit have been produced.

Dahlias were much injured by frost before the prize day, but after the first of October many good flowers were shown. The Lilliput dahlias of Martin Trautman are worthy of special mention.

Chrysanthemums; none exhibited, owing to very inclement weather on the prize day.

The Annual Exhibition was confined to the Society's Hall, and therefore the display of flowers was limited. To the satisfaction of all persons of good taste there were no (so called) floral designs, and the Committee must recommend that the course pursued the present year, of offering no inducements for the construction and exhibition of these monstrosities, be followed for the future.

In Bouquets there was a marked improvement. All classes were characterized by greater lightness and grace, and were in general composed of choice flowers. There is however much to be done, especially in hand bouquets.

The display of Cut Flowers though limited was far better than ever before: the flowers were choicer and more attention was paid to arrangement.

Achimenes were good: some of the specimen plants large and fine, but there was no extensive display.

We can hardly conceive it possible to exhibit a poorer collection of Gloxinias than those shown the present year. During the season a few common pink varieties were shown; and at the Annual Exhibition six pots of most miserable plants; i. e. two self blues, two self pinks or reds, one seedling pink, and a very poor plant of the fine variety G. Wilsonii.

Will not some amateur give a little attention to this lovely flower, and shall not another year show at least a slight progress?

The Committee cannot but, in this connection, fully approve of the recent change in the By-Laws, by which *they are no longer obliged to award prizes for poor inferior plants and flowers because they are the only ones exhibited for premium.* The change has long been required, and cannot but be productive of good.

The most constant and largest contributor during the season has been Antoine Apple. His stand has always appeared well, and he deserves much credit for his exhibitions. F. Winship, the Messrs. Hovey, Barnes & Washburn, Joseph Breck, Charles Copeland, and James Nugent, have also been large contributors. Messrs. Bowditch, Whytal, Wales, Underwood, Jona. French, Murray, Trautman, Hubbard, and many others, have occasionally filled stands very creditably, and many rare choice plants have been exhibited by the Chairman.

During the past season the usual number of new plants have been intro-

duced, and some exhibited have been most beautiful, and will prove acquisitions.

The new Gladiolus, more fully described in another part of the Report, far exceeds in beauty any we before possessed. Besides the choice varieties exhibited by the Chairman, new and fine kinds have been shown by Messrs. Barnes & Washburn, but never with names, so we are unable to describe them fully or to give the names of the varieties.

During the months of July and August fine specimens of Tritonia aurea were exhibited by the Chairman: it differs greatly from the other Tritonias, and is by far the most beautiful. Habit, medium; leaf, like that of a small gladiolus; flower stem, tall and branching; flowers, deepest orange; stamens, three, with orange anthers; petals, six, reflexed when fully expanded. The flowers are produced in succession during six weeks. Root *tuberous;* plants are easily raised from seed which is produced freely; or the root may be divided.

Cypella plumbea flowered out of season for exhibition, and being in bloom only for one day could not be preserved. A new variety, inferior in color to C. Herbertii; growth strong; flower stem tall (perhaps however owing to greenhouse culture;) leaves gladiate, of a dark purplish green: flower composed of three large spreading petals of a rich delicate lead color, and three reflexed petals very richly veined in yellow and lead color, occasionally deepening to purple. Period of expansion transient, but as in Tigridias flowers are produced in succession from strong bulbs: seeds freely, but we have not yet raised young plants. A lovely variety for a collection.

Rose Gloire de Dijon has bloomed profusely with several of our amateurs, and it is not saying too much to call it, for size, color and perfection of bud, the best tea rose we have. On its own root it is not a rapid grower, but budded on other varieties it makes a most vigorous growth, and is always a profuse bloomer; foliage, dark glossy green, medium; form, globular, but expands, just after perfection, perfectly flat; color, shading from light tea to deepest salmon; for the greenhouse or rose pit a most desirable variety.

Of Verbenas we have no new American seedlings of any special merit, but some imported varieties promise well.

Celestial, a fine large pink, a rampant grower, and good bloomer.

Rosy Gem, a good greenhouse variety, but in our experience poor out of doors.

Of Evening Star the same may be said.

General Simpson, a most beautiful scarlet variety, superior for out-door culture.

Giant of Battles, a good variety thus far.

Annie, for which the silver medal was last year awarded, has not proved as fine for border culture as was hoped; the flowers, with some, turning pinkish when old; it is however a good variety for open culture. For the greenhouse it is doubtless *the best verbena;* its color is the purest white, and it will give more bloom than any other variety, and is therefore most desirable.

Azalea ramentosa, exhibited by Gustave Evers, is a beautiful variety; flower like A. amœna, but of the purest white and in larger clusters; unfortunately it is not a free bloomer.

Tropæolum Randii, raised by Mr. Joseph Breck, fully sustains its reputation as the best for greenhouse culture and for bouquets; growth strong; a very free flowerer; color like T. pulcherrimum but dotted and marked with black; flower larger.

James Nugent has exhibited fine Ericas, evidently seedlings from the Caffra varieties, but better bloomers and greatly improved.

W. C. Strong has shown Hardenbergia andamariensis, a pretty little vine resembling a Kennedia.

Cuphea eminens has not been exhibited and seems to have been consigned *to well merited oblivion.*

Nemophila cramboides, smaller and not superior to N. insignis; petals more spotted at the base; habit more trailing and branching, rendering it more desirable for hanging vases or baskets.

Polyanthus George IV., by James McTear, a good fancy variety—the best exhibited.

Seedling Camellia by James McTear, second exhibition; retains all the marks of superiority for form, purity of color and general beauty of flower; bids fair to be the best white.

Seedling Camellia by Messrs. Hovey—first exhibition; a very novel seedling; flower under size; form good; the chief beauty seems to be the production of flowers of *different colors* (pink, white, and variegated) *on the same plant.*

Erica depressa has bloomed very sparingly with the Chairman. Habit superior; flower somewhat resembling E. Cavendishii.

Hepatica, double red,—a most lovely spring flower, very well known but very rare, bloomed very finely this spring.

Cineraria, Little Ellis, (seedling) by James McTear—a fine bloomer and of the best habit—colors purple and white.

Anemone nemorosa flore pleno, Ranunculus aconitifolius, Trillium grandiflorum and erectum, and many rare hardy herbaceous plants, by Mrs. B. Bruce of Dorchester.

Fine specimens of Trillium spictum by F. H. Rand.

A fine Lily, probably a cross between L. superbum and L. canadense, by Wm. H. Sumner.

Phygelius capensis, by A. Apple, a new and pretty plant for bedding purposes; plant and treat as a Salvia; flowers orange red in panacles, a profuse bloomer in the months of August and September.

In the collection of the Chairman are many new and fine bulbs which it is hoped will bloom before another season and be reported; such as Tritonia uvaria, Arums, Cyrtanthus, Phaedranassa, Morea, Dietis bicolor, Pentlandia miniata, Vieusseuxia glaucopis, Ornathogalums, Ixias and Sparaxis, Tritoneas, Chlidanthus, Cypella, Wachendorfia, Bravoa and others.

The Committee take great pleasure in being able to present to the So-

ciety the following articles on the culture of several of our finest species of ornamental plants, and thus they trust new incentives may be given to their cultivation and another year be productive of satisfactory results:—

The Culture of the Phlox, by Joseph Breck.
The Culture of the Gladiolus, by the Chairman.
The Culture of the Japan Lily, by C. M. Hovey.
The Culture of the Rose, by W. J. Underwood.
The Culture of the Aster, by the Chairman.
The Culture of Gloxinias and Achimenes, by James McTear.
The Cultivation of our Native Plants, by the Chairman.

REMARKS ON THE BEST VARIETIES OF THE PHLOX.

BY JOSEPH BRECK.

Dear Sir,— *Boston, Nov.* 20, 1858.

According to your request, I herewith furnish you with a select list of some of the most desirable varieties of Phlox now in my collection. Some of these varieties have been exhibited, and very much admired, at the weekly exhibitions of the Massachusetts Horticultural Society during the last summer, while others, imported last spring and flowering late, have been seen only in my garden at Brighton.

The task is a difficult one, considering the large collection from which they have been selected. Without reference to the vernal varieties, which are beautiful in their season, adding grace and life to the flower garden during the month of May, and after rejecting a multitude of ordinary and passable varieties heretofore considered fine, I have retained upwards of one hundred and fifty sorts, all differing in time of flowering, height, habits, color, &c., and all desirable for the amateur, who has ample space, and is ambitious for a large collection of plants.

This number, however, is much too large for the great majority of cultivators, and I have, therefore, endeavored to reduce the list so as to give a selection of the very best, differing as much as possible as to the time of flowering, style of inflorescence, color, height, &c.

Setting aside the varieties of phlox subulata, setacea, stolonifera, and divaricata, so desirable in their season, our Society, in their schedule of premiums, have made two classes of the other varieties, viz: the early summer and late. Those designated early commence flowering about the first week in June; the different varieties successively coming into bloom to the middle of July, and continue in bloom, more or less profusely, until October, particularly when the flower stems are cut down to the ground as the trusses or spikes of flowers begin to fade. This class of phloxes range in height from one and a half to two feet, according to the richness of the soil; some few varieties are rather more dwarfish in their habits, which will be noted in the descriptions. The early sorts all have a peculiarity in their foliage differing from those later. The leaves are generally glossy, with a

smooth surface, mostly oblong-lance shape; some are heart shape, or obovate at the base, ending in the lanceolate,—the different forms of the leaves indicating the species from which they originated.

There are also some intermediate sorts, which are a little later, possessing some of the characteristics of both classes.

I designate two very desirable varieties of the intermediate class:—

Madame Duboulet—has deep pink flowers, shaded and tipped with white. This is the only variety with which I am acquainted that has departed from the single or natural state of the flower; for, instead of having five segments to the corolla, this has from eight to ten, overlapping each other in a regular manner, forming a perfectly circular flower, which is one of the characteristic points of perfection. Its height is from two to two and a half feet; the flowers arranged in dense oblong pyramidal spikes.

Henry Lierval, a new French variety, with dark crimson purple flowers, arranged in flat panicles, or heads similar to the Sweet William; two and a half feet high. This variety is very distinct, fine, and showy; of the richest color.

From thirty early summer phloxes, I select the twelve following sorts, all about the same height (one and a half to two feet):—

Rival—has large pure white flowers, in long pyramidal spikes.

Madame Carl Wagner, a splendid new variety, with very large rose-colored flowers, shaded to white on the margin, with bright rosy eye.

Madame Urmine Lambelle—flowers pure white, extra large, and perfect; the tube of the corolla lilac-purple, in long pyramidal spikes.

Compte d'Flandre—white, with dark red eye, in long, somewhat pyramidal spikes.

Countess of Home—white, shaded with rose, with very distinct, large purplish-crimson eye, extra form, arranged in long cylindrical spikes; very beautiful.

Speculum—pure white flowers, dark-red conspicuous eye, in pyramidal spikes.

Roi de Leopold—white striped, and flamed with rose purple in dense spikes; habit very robust.

Madame Emma Favier—pure white, with carmine eye, large, well-formed flower; new and beautiful.

Cromwell—dark purple, very fine, extra large flowers; have measured some that were 1§ inches in diameter.

Gustavus Vasa—white, shaded with rose; dark red eye, large and fine; promises to be a superb variety.

Beppo—purple crimson flowers; one of the best of the high colored early varieties, but flowers not so large as some others; rather above the medium height.

Annais Chauveri—white, with lilac-purple eye; fine truss.

Besides these twelve sorts, there are others that are desirable varieties, as—

Leonidas, with dark red flowers and purple eye, but rather weak habit, and Atkinsonii and Suaveolens, pure white, &c.

Late Phloxes.

The earlier varieties of the late summer phlox commence flowering about the middle of July, and from that time to the first of September the different sorts succeed each other in expanding their blossoms. The period of bloom of each variety is about six weeks, and the raceme or head in perfection in about a fortnight from the time the flowers begin to expand. Some varieties continue to bloom as late as the first of November; this year I picked them as late as the 15th, but the flowers lose their brilliancy after heavy frosts. Thus, with a collection of vernal, early and late summer phloxes, there will be a continuous display in the flower garden, from this tribe alone, for more than six months.

The flowers of the late sorts are arranged in clustered racemes, or heads, assuming every shape, from flat to semi-globular and to pyramidal.

The finest specimens of phlox are those of some of the new dwarf varieties, one and a half to two feet high, with broad rounded racemes nearly half as wide as the plant is high. The flowers large, perfectly round, pure white, rose, pink, carmine, or purple, with a distinct dark eye; or, in the darker varieties, a light eye, or with one distinct brilliant color, from white to all shades to red and purple.

In the colors of the late phlox we now have all the brilliancy and variety so attractive in the Drummond phlox, which, only a few years since, was thought to be highly desirable, but not very likely to be attained.

I select about fifty of the finest late phloxes now in cultivation:—

Admiral Ruter—purple, violet and white, striped and mottled; fine; three feet.

Admiral de Lionois—red, with deep crimson eye; extra fine formed; three and a half feet.

America (*Breck's*)—delicate shaded rose, with pink eye; fine; three and a half feet.

Atropurpurea—dark crimson; three feet.

Breck's Grandiflora—shaded rosy lilac; extra large flower; four feet.

Camarina—pure white, veined with red, distinct dark red eye; fine; three and a half feet.

Countess d'Radenpont—white, with lavender-purple eye; fine; three feet.

Decora—white, with red eye; fine; three feet.

Docteur Josset—new French variety, peach color, scarlet centre, enormous panicle; extra fine; two and a half feet.

Docteur Parnot—new French variety, rose-carmine, scarlet-purple centre; extra; two feet.

Docteur Leroy—bright rose, crimson eye, fine large truss, large flowers; one and a half feet.

Exquisite—peach color, with white eye; three and a half feet.

Diamond—rose, with large crimson eye; three and a half feet.

Hersine—purple, with white blotch on each petal, red eye; extra; four feet.

Diantha Flora—rose and white, distinctly flaked; very pretty; two and a half feet.

Hecter Eugene—bluish, with crimson eye; one foot.

Imperatrice Eugenie—white, with large crimson eye; extra; two feet.

Joviala—white, with pink eye, very large panicle; two and a half feet.

L'Orientale—large, pure white flowers, with crimson eye; three feet.

Le Croix St. Louis—rose and pure white, margined and striped; extra; two and a half feet.

Madame Andry—white, violet-purple centre; extra; two and a half feet.

Madame Clerget—red scarlet; two and a half feet.

Madame Dargent—rose, purple centre, large panicle; two and a half feet.

Madame Julliot—dark red; extra; two and a half feet.

Madame Morsaline—red violet, deep scarlet eye; fine form; two feet.

Madame Bassville—rose-white, large red eye; fine; three feet.

Madame Andros—white, deep carmine eye; superb; one and a half feet.

Madame Le Cerf—large, pure white; one and a half feet.

Madame Deslandes—rose, deep crimson eye; extra; three feet.

Madame Fontaine—white, deep carmine eye; extra; one and a half feet.

Madame Klein—rosy crimson, vivid scarlet eye; extra; two and a half feet.

Mrs. Webster (*Breck's*)—large white flower, small dark eye; extra; four feet.

Madame Millieret—rosy-lilac, deep red eye; fine; three feet.

Mademoiselle Bertha—pale rose, violet-crimson centre; two and a half feet.

Mademoiselle Lemichez—white, deep crimson centre; showy; three feet.

Mademoiselle Judith—white, shaded to pink, dark eye; extra; three feet.

Mademoiselle Irrna Huet—pure white; extra; two and a half feet.

Mademoiselle Amelie Ferry—blush white, with deep crimson eye; extra; two feet.

Monsieur L'Ange—lilac, dark eye; two and a half feet.

Monsieur Boudier—deep rose, dark red eye; two and a half feet.

Monsieur Hardy—deep pink, with red eye; four feet.

Monsieur Edmond About—bright rose, scarlet centre; fine; two and a half feet.

Monsieur Bienvenue—deep purple; superb; two and a half feet.

Micanthra—lavender, white centre; fine; three and a half feet.

Mount Blanc (*Breck's*)—pure white; three feet.

Osiris—white, small red eye, dwarf habit; two and a half feet.

Occulata—lilac, white centre; very fine; three and a half feet.

Purpurea Nova—fine purple; three and a half feet.

President Morel—red violet, spotted; two feet.

Sallier—deep crimson, purple centre; three feet.

Souvenir 29th d'October—white, rose-purple centre; three feet.

Souvenir de la Mer—white, violet centre: three feet.

Umbellata Nova—shaded lilac, fine large flower, dwarf habit; two and a half feet.

The cultivation of the phlox tribe is of great simplicity; it flourishes with very little care in almost any soil, succeeding better, however, in a deep rich, rather moist soil.

The best time for dividing the roots for new plantations is about the first of August. The old stools should then be taken up, the flower stems cut down to one foot, leaving the leaves that are attached to them; separating the roots, making a plant of each stem, with portions of the root connected. These pieces of roots should be planted in highly manured and deeply dug soil. They will acquire strength during the fall, and flower better than the large stools the following season.

Choice varieties are propagated from cuttings taken off in June or July, and make fine plants for the next season.

Respectfully yours, JOSEPH BRECK.

Edward S. Rand, Jr., Esq.,
Chairman of the Fruit Committee.

THE CULTURE OF THE GLADIOLUS.

BY THE CHAIRMAN.

There is no bulb which has so rapidly grown into favor, or so much improved by hybridization, as the Gladiolus. A few years since they were comparatively rare; we had a few varieties, but they were little noticed and excited little attention. But the results of the last few years, since they have received more careful culture and since the fine new varieties have been introduced, have been wonderful; and at the present time there is probably no one class of plants which promises better for the future, not only in Europe but also in this country, than the gladiolus.

There are three species of gladiolus (G. Byzantinus, communis, and roseus) which are tolerably hardy, and if once planted in the open borders will flower well year after year, requiring little attention. Bulbs of these varieties should be planted in November, and need no protection; (perhaps, however, it is better to throw some loose litter over the bed, as roseus is often winter-killed.) Plant the bulbs in little clumps, four or five together; they will flower finely the next spring, and need no further care. The bulb must, however, be planted deep enough to protect it from severe frosts, and to prevent its being thrown out of the ground.

G. cardinalis was first introduced into this country about the year 1835; it was for a time very rare, but can now be easily procured. It is a native of the Cape of Good Hope, and in England receives the same attention and culture as the rest of the so-called "Cape bulbs;" but we must give a different treatment to grow it in perfection out of doors. As a pot plant it is of the easiest culture—light and air are essential; care must also

be taken to keep off the red spider, which infests all plants of this class. The soil in which it thrives most is a compost of about three parts of sandy loam to one of leaf mould: do n t pulverize the earth, as it is apt to become sodden by watering, and thus prevent a free development of the roots. The plants intended for the border should be started in pots in the house, for our season is scarcely long enough for their full development and the proper ripening of the bulb. Keep them in a cool place until the end of May, when they may be turned into a border of prepared soil; they will soon show bloom, for in their native climate they are of rapid growth. As soon as the leaves decay, take up the bulbs and dry them; moisture or frost are fatal, so care must be exercised. Keep in the dry state till the bulbs show signs of activity. when they must be immediately planted, for attempting to retard their growth in a dry state greatly injures the bulb.

The color of G. cardinalis is scarlet and white. It is a beautiful species, but of very weak growth, and is not popular, being entirely cast into the shade by larger, stronger-growing species.

Gladiolus racemosus.—Beautiful rose, marked with white and carmine. The bulbs are much smaller than those of the varieties to be described, but some of the beautiful hybrids are well worthy of cultivation. The treatment given above for cardinalis will do well for all the varieties of racemosus, though, if strong bulbs are procured, they will bloom well if planted in the open border about the la-t of May. The growth is far stronger than that of cardinalis, and some of the hybrid varieties are very beautiful. We annex a list of a few of the most desirable, but doubt whether they can be procured in any quantity in this country:—

Gladiolus racemosus formosissimus—magnificent scarlet.

Queen Victoria—red, with white and carmine border.

Oscar—brilliant scarlet, spotted with white; choice.

Lord Grey—vermilion, spotted with violet and white.

Lord Palmerston—vermilion, distinct carmine spots, violet and white.

Lord John Russell—clear vermilion, large, bordered with lake and carmine; choice.

Wilhelmus—vermilion, bright spotted with white and violet.

Gladiolus psittacinus, originally called Natalensis from Natal its native country, was but a few years since one of our most popular and admired species. Its colors are yellow, red, and green, and it blooms profusely in the open border with little care; it will flourish in almost any soil, and instances have been known of its surviving our winters. Plant in May, and take up after the leaves have been killed by the frost. This once generally admired species is now little esteemed in comparison with G. gandavensis and its hybrids, but nevertheless is well worthy a place in the garden, as its bulbs increase rapidly, and are of the simplest culture; seeds are also produced in profusion, and seedlings flower the third year.

Gladiolus floribundus, or (from the position of its flowers) oppositiflorus—a most beautiful variety; color, shaded rose, pink, or white. The flowers are very delicate, and produced in long, crowded spikes. The growth is stronger than any of the species we have previously described,

except natalensis, and the bulb smaller and does not increase so readily. Cultivate as directed for G. natalensis, though, if a rich soil is given, the flowers are larger and the spikes more numerous. One of the most beautiful features of our garden this last summer have been two large beds of this species and G. gandavensis.

Gladiolus gandavensis—a very striking species; color, superb orange and yellow. This variety was raised as a seedling by Van Houtte, and derives its name from the town of Gand. It is stated to be a hybrid between cardinalis and psittacinus; but Rev. Mr. Herbert of Spofforth, England, probably the best authority on bulbous plants, very much doubted the truth of this assertion. For a long time he experimented, crossing those two varieties, but was never able to obtain any seedlings. At the present time it would be useless to revive this question or attempt its discussion; it might, however, be interesting to know the truth, for certain it is to this species we owe all the magnificent varieties we shall soon describe, and many more none the less beautiful.

The culture of gandavensis is very easy: prepare a well manured bed; plant the bulbs three fourths of a foot apart each way, and two inches deep; stake carefully, and the bloom will be magnificent; give them the full benefit of the sun, for, if shaded, they do not succeed. A single bulb will often give two or three stems of bloom, and a succession of flowers will be produced for two months. In winter keep the bulbs from frost. Seed is freely produced, and hybridization between this and other varieties easily effected. The growth of this species and its hybrids is very vigorous; the plants require staking, otherwise they are liable to be broken by the wind.

We now come to the hybrids of this species, which are most beautiful. We give a list of those which have flowered in our collection during the past summer, with a full description of their habit, color, form of flower, &c.

Gladiolus gandavensis Hebe—flower large, petals pointed, very slightly reflexed, color deep pink, shading almost to white, tube of corolla, fine lake, lower petal veined with yellow, habit dwarf. The bulb from which our description is taken was weak; the flower may be finer on strong plants.

G. gandavensis Courantii carneus—growth very vigorous, the bulb often producing two or more shoots, and each of these ramifying; *more than ninety* flowers were produced from a single bulb. Flower medium; petals, three upper, large, rounded; color, pinkish, shaded through flesh color to the dark purplish tube; two inferior, small, pointed, deeply veined with yellow and lake; lower petal, medium, marked as the three upper, but with yellowish base.

G. gandavensis Ninon de St. Onclos—growth very strong, the bulb producing many shoots, and these ramifying. Three upper petals, large, rounding; color, deep cherry, shading to pink; three lower petals beautifully marked with veins of pink, sometimes shading into pale yellow; petals, both upper and inferior, reflexed; flower very large, anthers purple, tube of corolla very dark lake; a most beautiful variety.

GLADIOLUS GANDAVENSIS VESTA.—Flower large, three upper petals white, spreading and slightly reflexed; three lower deeply veined with pink and yellow, reflexed; tube of corolla most brilliant cherry; anthers light purple; growth strong and tall. A most desirable variety.

G. GANDAVENSIS AMABILIS.—Color a little deeper than gandavensis but not different enough to be valuable except in a collection. Color vermilion with yellow spots; habit dwarf, a free bloomer.

G. GANDAVENSIS EDITH.—Flower large; color mottled or shaded rose, with a distinct white stripe through the middle of each petal from the base; habit medium. A beautiful variety.

G. GANDAVENSIS ÆSOPE.—Flower medium, color clear dark cherry veined with purple; habit dwarf; a very distinct variety.

G. GANDAVENSIS AGLAE.—Flower medium; color rose salmon beautifully mottled; growth vigorous. A very desirable variety.

G. GANDAVENSIS ADONIS.—Growth vigorous; spike tall, flowers placed opposite, giving to the spike a flat appearance, in this respect more like floribundus (or oppositiflorus) than gandavensis. Color, clear cherry, marked slightly with white; lower petals cherry, marked with yellow, and striped with brilliant carmine. A fine variety. A late bloomer.

G. GANDAVENSIS BERTHE RABOURDIN.—Growth very strong; leaves dark green; flower sheath, compact; spike, tall, inclined to branch; color, three upper petals, purest white; three lower white, shading sometimes to delicate pink; base, most brilliant violet, well defined; no confusion of colors; a most splendid variety; late bloomer. We have now, (October 18th,) side shoots in fine bloom.

G. GANDAVENSIS ENDYMION—a lovely flower; petals, large, and spreading, lower very much reflexed; color, rose, shading to deep pink; on the tips of the petals slightly veined with violet; a free bloomer; growth, medium; flower, very large; very desirable.

G. GANDAVENSIS COURANTI FULGENS—Habit, tall; growth, vigorous; color, red crimson, very clear and brilliant; lower petals delicately marked with yellow and white; form, open; very fine.

G. GANDAVENSIS THISBE—Color, delicate rose; petals, reflexed, veined with white; lower petals striped with yellow and purple.

G. GANDAVENSIS JANIRE—Color, orange red; growth, vigorous; a good showy variety.

G. GANDAVENSIS ARISTOTLE—Growth, medium; color, clear flesh color, inclining to rose; petals deeply striped with carmine; flower, small; growth, medium; not superior.

G. GANDAVENSIS EGERIE—Orange rose; petals slightly marked with carmine; flower, medium; good.

G. GANDAVENSIS SULPHUREUS—Growth, strong; flower, delicate yellow or straw color; petals, large, slightly reflexed, the inferior striped with yellow and purple; throat, dark lake; anthers, light purple; a most beautiful and very desirable variety; a free bloomer, often throwing two or more spikes of bloom from one bulb.

All the above have been well proved, and are of superior excellence;

but for the benefit of those importing, we add a list of other fine varieties, all hybrids from gandavensis:—Archimedes, Atalante, Calendulaceus, Berenice, Dr. Margolin, Danæ, Galathee, Goliah, Midas, Imperatrice, Neptune, Monsieur Vinchon, Osiris, Rachel, Pallas, Penelope.

The surest and best way to procure these varieties, is to import them either directly from some foreign garden, or through any of our chief seedsmen: few of them could be furnished, in any quantity, in this country, for they are as yet too new to be plenty, but we look to see them extensively cultivated in the course of a few years, and obtainable at prices within the reach of everybody, for at the present prices, ranging from five to eight francs per bulb in Europe, a collection is very expensive. We also trust to see fine seedlings raised in this country, for our climate is admirably suited for perfecting the seed: all the above described varieties have seeded freely with us, and from a bed of about twenty varieties, we have a quantity of choice seed from which we may hope for some fine seedlings.

We have lately been much interested in a pamphlet, on the culture of this plant, by Truffant, of Versailles, a portion of which we have translated for the benefit of American amateurs, of course adapting it to our own climate.

THE CULTURE OF THE GLADIOLUS,

By Truffant, *fils.*

The culture of the Gladiolus is in general extremely simple, and if, until now, the numerous admirers of this beautiful genus have hesitated to enter upon an undertaking reputed so difficult, I hope to be able to persuade them that they can easily succeed, and I guarantee to those who will follow my method, complete success. And for this end I publish the mode which I have employed for many years.

It is most important not to confound the different species or varieties of Gladiolus, because they begin to grow at different times, and consequently must be planted at different seasons. The species which I cultivate are the following:—

Gladiolus cardinalis and hybrid varieties,
ramosus " " "
floribundus " " "
psittacinus, the varieties of gandavensis and hybrids from them.

Section I. Multiplication by Bulbs.

I. *Culture in the open ground, of Cardinalis, and its hybrid varieties.*

This class, the oldest in cultivation, is very rich in varieties, and very remarkable for its elegance of form, its brilliant colors, and the variety of its flowers; its varieties require a light earth, well enriched, that is to say, heavily manured. To obtain such a soil, I manure the earth in the spring, before the season for planting, with cow manure, and, as far as possible, without admixture of urine; and to fill the ground, and remove from the manure its richness and harsh action, which is unfavorable to the gladiolus, I plant, during the spring and summer, annuals which exhaust the soil but

little, such as asters, stocks, &c. When these plants are done blooming, I work the earth to free it from injurious weeds; during the first fortnight of October, I work it over again to plant the bulbs; (this may be suited to the climate of Paris, where this bulb will survive the winter, if somewhat protected; in this country, the planting should be in May, as before directed.) Where the soil is naturally light, I give it preference, but when it is too binding, I mix a suitable compost of one third of leaf mould, one third light sandy loam, and one third of a peaty soil, such as is at hand. This compost should be well mixed by several siftings; when the earth is well mixed, I hollow out a cavity four inches square, and fill it with the earth thus prepared. It is in this earth that I plant the bulb during the month of October; the distance to be preserved between each of those which are to flower the coming year, should be three inches in the rows, and two and a half in the line; each bulb should be planted about one inch deep. In the month of November, when the frost begins to threaten, I protect them from the weather by a simple melon frame covered with a sash; the frame must be surrounded with leaves, old manure, or earth, so that the frost, during the winter, may not disturb the ground. At this season, to prevent damp which collects in the frames, I give plenty of air, day and night, if the temperature is above freezing. The gladiolus, thus exposed during the winter, becomes more vigorous and hardy, and better bears an accidental frost, and a cold of one or two degrees centigrade, for as has been truly said, the frame does not serve to force the bulbs into growth, but only to protect them against rain, and changes of climate. The precaution must be taken to cover the frames with straw mats or with leaves, when the frost is very severe, and the cold long continued; however, when the weather permits, I admit air. Early in spring all the bulbs are in active growth; at this time, the bulbs which have only made roots during the winter, show their leaves. Beginning at this time, I water according to the weather, enough to make the earth moist; I give plenty of air by raising the sashes at the top and bottom, or by removing them entirely during the day, if the weather permits.

When the floral stems develop themselves, I straighten those which bend over, and when the flowers begin to expand, I place over the plants an awning, to ward off the too vivid rays of the sun; owing to this precaution, the flowers continue much longer in perfection, fresh and brilliant; in order that the flowers may produce the greatest effect, it is well to remove the frame and thus the bed appears part of the flower border. So cultivated, the gladiolus grows readily, multiplies very easily, and produces always many and very beautiful flowers.

When the flowering season is over, I remove the awning and expose the plants to the sun, so that the seeds may be perfectly ripened; I then cut the seed stalks from all of which I do not wish to preserve seed; for these greatly injure the bulb and cause it to flower poorly the following year. As soon as the leaves begin to fade or turn yellow, I take up the bulbs, lest they should continue to grow; this arrest of growth is very important; if the bulbs grow anew before they have been taken up they suffer, and

bloom less vigorously the following year; I place them in a dry airy place, protected from all damp and from the attacks of mice. When they are dry I clean them and remove the small bulbs to plant them anew in October. I cultivate the small bulbs of these varieties, hybrids from cardinalis, as the flowering bulbs, only I plant them in the three inch lines left between the rows at a distance of from one half to one fourth of an inch, according to their size.

II. *Culture in pots, of Cardinalis, and its hybrid varieties.*

To obtain a beautiful bloom, it is necessary to plant the bulbs in the course of October, in five inch pots, well drained and filled with a sandy peat; each pot should have three to five bulbs, according to their size, and should be planted one inch deep. The pots should remain in the open air as long as possible, and should be placed upon sand in order to prevent the worms from entering at the bottom; when the frosts commence, they should be removed to the orangery or hothouse, under an awning, or in a well aired apartment where they will not freeze. It is necessary, early in spring, when the flower stems begin to develop, to water the plants and to give them plenty of light and air. As most of the hybrids from cardinalis produce many small bulbs, it is best for those who desire rather a beautiful bloom than to propagate the plants extensively, to separate them from the parent bulb as soon as possible; this operation is easily performed by uncovering the periphery or surface of the bulb, and, by the aid of the fingers or a small wooden spatula, removing the bulbs gently. Thus treated, the gladiolus show beautiful spikes of bloom in the month of June, alike showy for their size and colors. These hybrids are those which force far more easily than any of the other varieties.

III. *Culture, in the open ground, of Gladiolus ramosus and floribundus, and their hybrid varieties.*

The more delicate varieties of Gladiolus and hybrids, between ramosus and cardinalis, are cultivated like cardinalis, but the same rules do not apply to the varieties of Gladiolus racemosus and floribundus; it is sufficient to plant them during the month of March, (May) in a light soil manured and prepared as for hybrids of cardinalis. The space to be kept between the strong flowering bulbs, is six inches for hybrids from racemosus; and seven to eight for hybrids from floribundus and for racemosus. The bulbs should be planted at the depth of one to one and a half inches.

With these varieties one can dispense with frames, but prudence requires us, after the planting, to cover the bed with a mulch of leaves or long manure, of one or two inches in thickness; but when severe frosts are no longer to be feared, one may remove this covering. During growth, water according to need; the flowers appear in July and August; in the autumn take up the bulbs and keep them on a dry shelf safe from frost.

IV. *Culture in the open ground of Psittacinus gandavensis and its hybrids.*

The varieties more hardy and vigorous need a richer soil than the varieties of floribundus and racemosus; a rich manured earth well enriched with well rotted horse manure suits them. They do not even refuse to grow on a sandy soil; in a word, they *can* be raised in all soils. Let them be planted in the month of March, and with the same care as directed for floribundus. The flowering bulbs should by all means be planted at a distance of from nine inches to a foot each way. During the growth, water must be given copiously, and in the autumn the bulbs must be treated like floribundus. These beautiful varieties have the advantage of a long blooming season, if one chooses to plant separately the different sized bulbs; the large will bloom in July, the smaller in August, and the smallest in September and October.

V. *Propagation of the Gladiolus by Seed.*

The Gladiolus is also propagated by seed; the sowing should be in the fall, as soon as the seeds are gathered, or during the months of January and February, (March and April,) in a peaty soil, in a frame covered with glass to exclude the frost, or in pots or pans well drained, and filled with fresh peat; the seeds should be scarcely covered. The pots in which the seeds are sown should be placed in the greenhouse or in a frame.

When the plants appear, and the rays of the sun are too strong, I shade them; place them in large pans and give them air in order to make them strong. When, in the month of May, the weather is fine and settled I remove the frames which sheltered the seed in the open borders; or I repot and place the pots of young plants in the open ground, so that the first year they may make the greatest possible growth. When the leaves begin to grow yellow I take up, with care, the small bulbs, and preserve them in a dry, secure place. In October I plant them again in the open border, at a distance proportioned to their strength. The care to be given during the winter is the same as that which old bulbs require. The third year the greater part of them will show bloom.

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THE CULTURE OF THE JAPAN LILY.

BY C. M. HOVEY.

The Japan Lilies are the greatest additions ever made to our gardens. Perfectly hardy, easily cultivated, extremely beautiful and highly fragrant, —blooming late in season after other lilies are gone, and remaining in flower for a long period—they can claim as they well deserve, a prominent place in the largest or smallest garden.

But notwithstanding they have been introduced into our collections more than a dozen years, they are yet very little cultivated and are, indeed, generally rare. An impression has gained currency that they are not hardy, but require the protection of the greenhouse in winter, and hence they have not been sought for so eagerly as other less beautiful plants. This however is not so. It is true that when first introduced to Great Britian, they were thought to be tender, and were exclusively grown in the greenhouse, where they form one of the most superb objects for summer decoration, and where they should always find a prominent place. But they are quite as hardy as the common white lily.

Their cultivation is very simple. They will like other bulbs grow in any ordinary soil, but to produce fine specimens, with twenty or more flowers on a single stem, requires a better prepared and more favorable compost. This may be readily done by removing a portion of the garden soil, and replacing the same with peat and sand, mixing the whole well together to the depth of eighteen inches or more. In such a soil they will thrive with vigor, and produce an abundance of flowers.

The best season for planting is October, though they may be set out as long as the ground remains open. They should be planted full five inches deep, and about a foot apart. Before frost sets in severely, cover the bed or bulbs with four or five inches of leaves, tan, or strawy manure. Early in April take this covering off, and as soon as they appear above ground, stir the soil gently, keep them clear of weeds, and in August and September they will become the most attractive objects in the garden.

No plants succeed better under pot cultivation. For this purpose the bulbs should be potted in January or February; choose a compost of loam and leaf mould with a little sand. Plant in five or six inch pots, one bulb in each; give a good drainage and cover the bulb quite two inches deep; then place the pots in the coolest part of the house, giving them but little water till the shoots have made their appearance; after this, remove them to a more favorable situation, and water more freely. In April, or as soon as they require it, shift into good sized pots, sinking the bulbs still an inch or more deeper; tie up the stems, as they advance in growth, and in July and August they will reward the amateur with one of the most magnificent displays of beautiful blossoms.

The original species and varieties brought from Japan were the white, rose-spotted and crimson-spotted, but by the aid of hybridization seedlings have been produced which far surpass the finest of the three—the crimson-spotted one. These seedlings vary in the color of their spotting from pink to the deepest crimson, with a more vigorous and statelier habit, and with larger and better shaped flowers. With care in the production of seedlings no doubt many additional and beautiful kinds will be raised.

THE CULTURE OF THE ROSE.

BY WILLIAM J. UNDERWOOD.

Belmont, December 16th, 1858.

MR. E. S. RAND, JR, Chairman of Flower Committee.

Dear Sir:—At your request I send you a short article on the Cultivation of Roses, giving you at the same time, the results of my own experience; as such, if you consider the remarks of sufficient value, I should be happy to have them embodied in your report.

Respectfully, yours,

W. J. UNDERWOOD.

The complete success of the Society's show in June, proves that the Rose still holds the first place in our gardens, and the admiring crowds that thronged the hall, gave evidence of the general admiration for the "Queen of Flowers." The stands were loaded with most beautiful specimens of all varieties, from the tender rose of the greenhouse, to the hardy June rose of the open border, all equally indispensable to the florist and amateur.

But in September, when prizes were offered for Hybrid Perpetuals, where were our Rose growers? For two years there has been no competition for these prizes; this year but one stand was exhibited, and those evidently culled from a very limited collection, and though there were a few fine specimens from two or three other exhibitors, there was no such general exhibition as might have been expected from the contributors of such magnificent collections as graced our tables in June.

The conclusion to be drawn from this is inevitable; either the perpetual blooming property of these roses has been overrated, or else the proper course of cultivation to produce the fall bloom is to a great extent neglected. To express my own convictions, I should say that both these conclusions are in a measure correct. Beginners in Rose Culture are led to expect too much from this class of roses, and suppose that they need only to plant them properly to have a succession of blooms throughout the whole summer. But the truth is, they require constant care and attention, and only when they receive it do they reward the cultivator with good flowers and a profuse bloom.

Being mostly strong vigorous growers, they require a very rich soil, and will stand almost any amount of manure that can be applied to them; if they are well provided for in this respect a good bloom in June is certain, but to obtain the fall bloom it is necessary, as soon as that of June is over, to cut back all the new growth to two or three eyes, and to stimulate the plant with frequent applications of liquid manure. Neglect of this close pruning will almost certainly prevent the late flowering, and even if a few blooms do appear they will be small and imperfect. There is too a great difference in the varieties as to this; some of them, under the best culture, will often fail to bloom a second time. Of those grown by the writer, the following have proved the most reliable and best for late flowering:—Geant des Batailles, Dr. Arnal, Jules Margottin, Baron Prevost, L'Enfant du Mont Carmel, Wm. Jesse, Paul Dupuy, Duchess of Cambaceres, Madame Place,

Prince Leon, Standard of Marengo, Sir John Franklin, Du Roi, Aubernon, Alexandriné Bachmeteff, Baron Hallez, Glorie de la France, Madame Laffay, Prince Chipetowzicoff, Triomphe de Paris.

There is much difference of opinion as to the comparative merits of roses on their own roots, and those that are grafted, for an amateur who is willing to devote some time and attention to his plants, the latter are decidedly the best, for the growth is more vigorous and the flowers larger and more numerous. The manetti stock is the best, but whatever kind is used the plants should be set low enough to have the whole of the stock buried in the soil; a very little attention will be required to remove any suckers that may appear, and an annual or biennial removal of the plants, resetting, with the application about the roots of plenty of well rotted manure, will assist very much in their proper growth. The only advantage of having the plants on their own roots, is that there is no danger of losing the bud by the growth of suckers from the stock, and if a person has not the time or inclination to look after them properly, it is best to grow them in this way.

The tender roses such as the Bourbons, Teas, China, &c., may be grown in the open ground, and wintered from year to year with very little trouble, in the following manner. Have a frame of rough boards made in sections, so that it can be easily taken apart and set up. About the first of November lift the plants with a good ball of earth and set them in the ground again as closely together as possible, setting up the frame around them; let the top of the frame slope to the north, and let it remain open till after a frost sufficiently hard to freeze the ground quite stiff for an inch or so in depth; the top should then be put on; it should be tight enough to shed the water thoroughly. The sides of the frame should be well banked up with earth to keep the water out and to prevent the mice from getting in. I came near losing my whole collection by the depredations of these vermin, a year or two ago. In this manner I have grown a collection of these roses for the last six years, and have never lost a plant. When the frame is taken down early in May they are alive and healthy to the very tips of the shoots. During this time we have had as severe cold weather as we ever experience, and as my soil is naturally a cold clayey one, there is no reason why anybody cannot have equal success.

The best of my Bourbon roses are Hermosa, Paul Joseph, Mrs. Bosanquet, Henri Lecoq, Souvenir de la Malmaison, Cæsarine Souchet, Comice du Seine et Marne, Madam Angelina, Dupetit Thouars, Emile Courtier, Geo. Cuvier, Le Grenadier, Cardinal Fesch, Desgaches and Madam Varengot.

And among the Teas and Noisettes that do well in the open border are Amie Vibert, Ophirie, Solfaterre, Caroline Marinaise, Adam, Moire, Le Pactole, Goubault, Prudence Rœser, and Glorie de Dijon.

And now let me say a word or two for the June roses, which of late years seem to be almost entirely neglected. The culture of them is so simple, they require so little care, they bloom in such profusion and are so beautiful and fragrant that no rose grower can dispense with them even to

make room for the Hybrid Perpetuals. The display of these at the Rose show was the most beautful feature of the exhibition, and it may be hoped that it will lead many to reserve for them a prominent place in their gardens. Messrs. Hovey & Co. exhibited the finest collection, taking the first prize in each class. The varieties in the class for the best thirty, were, Shakspeare, Boula de Nanteuil, Mad. Hardy, Mad. Legras, Venus, Geo. IV., Mad. Plautier, Chenedole, Paul Perras, Chas. Fouquier, Amiable, Sir W. Scott, Coupe d'Hebe, Vandæl, Painted Damask, Cynthie, Meteor, L'obscuritié. Dauberton, Bizarre Marbré, Latour d'Auvergne, Kean, Edouard de Colbert, Margaret, Mary, Fulgens, Marquis of Lothian, Gil Blas, Glorieux, Thurette, Madeline.

Of Moss roses, the best exhibited were Glorie des Mosseuses, Madame Rochelambert, Marie de Blois, Alice Leroy, Celina, Duchess d'Abrantes, Luxembourg, Old Moss, Etna, William Lobb, and Crested.

Within a few years Perpetual Mosses have been introduced and bid fair to become a great acquisition. I have grown but three varieties, viz., Alfred de Delmas, Madam Ory, and Salet; the last two are as reliable as any perpetuals for fall bloom.

THE CULTURE OF THE ASTER.

BY THE CHAIRMAN.

Almost all our cultivated species of this beautiful tribe are exotics, though in our fields and meadows we have varieties which for delicacy of form, fineness of petal, elegance of color, and grouping of flower, will vie with any foreign species. In the point of size alone the imported varieties are superior in the first place, for all the beauty of form and the choice double flowers have been obtained by cultivation.

The culture of our native asters has but seldom been undertaken, and never, to our knowledge, with any decided results, for the simple reason that too little has been done; but we trust, before many years, to see these beautiful natives transferred to our gardens and flourishing in our borders. It is not in relation to these, however, that we intend to write, but to give a few simple directions concerning the management of the well-known Garden Aster, whether it be called Chinese or German, pyramidal or dwarf, quilled or pæony flowered. This Aster is an old and popular flower, though it is but comparatively recently that the new improved varieties have been cultivated.

China Asters were first sent from China to France about the year 1730, and have since been generally disseminated. At first they were single and of two colors, red and white. In Germany this flower is very popular, great pains have been taken to improve it, and hence the so-called German

Asters; in France, also, many fine varieties have originated, as the Pæony flowered and the Ranunculus flowered Aster.

Soil.—The Aster should be planted in a rich deep loam, well manured with old well-rotted manure and leaf-mould. As far as my own experience has shown, the plants grow and flower much better in *new ground:* the earth should not be sandy, as in such soil they are very subject to the attacks of a root aphis, which always prove fatal to the plant; it should not be clayey, for the roots become bound and thus the growth is checked.

Situation.—The spot to choose for the Aster bed should be sunny; in the shade they do not thrive, and become drawn, lacking that rich, vivid, clear color, which is one of the chief beauties of the flower. A sheltered place should also be selected, for the roots of the plants being small have but feeble hold upon the earth, and violent rains and winds are apt to dash the plant to the ground, especially when heavy with full-blown flowers. Staking is not necessary, but very useful, especially with the taller kinds. When the flowers have come into bloom an awning is useful to preserve them longer in perfection. Many plant Asters in rows along the vine border, and thus have a fine show of bloom without exhausting the soil, for the Aster, though delighting in a rich soil, is not a high feeder, and does not send its roots deep enough to materially affect the border, but, if procurable, a new soil will give richer flowers.

Season of Planting and Culture.—The seed should be sown in the open border, in the early part or middle of May, according to the season, and, after thinning, the plants will flower where sown, or may be transplanted; but this course should only be adopted by those who cannot have a hotbed or greenhouse. The proper way is to sow the seed about the 20th of April to the 1st of May, in pots in the greenhouse, or in a hotbed, (the latter is far preferable.) The young plants will soon appear and grow vigorously. If in the greenhouse, place the pots near the glass and give plenty of air to prevent the plants from being drawn, and to keep them healthy. In a hotbed raise the sash so as to admit air, or, in fine sunny days, remove it entirely. About the first week in June the plants will be of fine size, and ready for transplanting to the bed previously prepared, as before directed. The plants, if of the larger kinds, should be planted 12 inches distant each way, for the smaller 8 inches will be sufficient. A cloudy day should be selected for the transplanting, and the plants watered (if the weather is dry) and shaded for a few days, till they recover from the effects of removal. We have seen a pretty effect produced by planting clumps of Asters, four or five plants of different colors together; but the flowers are finer and the plants stronger, when planted singly. When the plants begin to mature bloom, staking is advantageous, as thus the flower is kept clean and bright, never being beaten down by wind or rain. The blossoms will continue to expand till after the early frosts, as all the flower stems will branch and produce flowers. It is however important to preserve seed from the early blooms, as it is better ripened. The seeds should be saved for fine flowers, only from the two

outer rows of flowerets, (the Aster consisting of a great number of small flowers, each of which, in the single varieties, matures a seed.)

Diseases.—The Aster is very subject to the attacks of insects, of which the most destructive is a small black beetle, or blister fly, which attacks the flowers, eating all the petals. For this pest we know of no preventive, and the only cure is to pick off and destroy the insects. The bed should be visited at least three times a day, and all the insects killed. The most convenient way is to throw them into a pan of hot water, for killing them is apt to blister the fingers.

For the root aphis. which troubles the plants in sandy soils, we know of no remedy but to dig up the affected plant, and destroy the insect.

Varieties.—The old China Aster single is now but little grown; the double varieties are, however, common. The quilled variety is now not as popular as a few years ago, being superseded by the pæony flowered varieties, but it is so very beautiful it should be in every garden, and it has the additional recommendation of ripening its seed better.

The Pæony flowered is by far the most beautiful of all the Asters; the beauty and size of its flowers, and the number of blossoms must recommend it to every gardener and amateur. It is as hardy and quite as easily cultivated as any other variety, and no collection of annuals can be complete without this beautiful variety. The Ranunculus flowered Aster is a neat dwarf and very pretty variety; we have not flowered it ourselves, but it must prove an acquisition. There are many other varieties, all well worthy of cultivation, but the above are by far the finest. We subjoin a translation of a French pamphlet, on the Culture of the Pyramidal Aster:—

THE CULTURE OF THE REINE MARGUERITE.

Pyramidal.

The varieties of the Pyramidal Aster, tall or dwarf, are, without doubt, the most beautiful of their species. They are hardy, resist drought, and accommodate themselves to all kinds of soils, and to every exposure, equally well with the more common single varieties. This Aster has the twofold advantage of a strong, and, at the same time, a majestic habit. The branches are erect and strong, and produce flowers remarkable in their whole appearance. The blooms are formed of large, erect, long tongue-shaped petals which, describing concentric curves, resemble the spherical flowers of the Chrysanthemum or Pæony; it is from this form that they derive the name of Pyramidal Pæony Flowered Asters, by which they are generally known. But the flowers are not only remarkable for their elegant and almost perfect form; they are distinguished, also, for their brilliant colors, rich, bright and delicate, among which we may notice rose, with all its shades, pure white, all the tints of violet, delicate red shading to the most brilliant carmine; these various shades are also elegantly spotted, dashed or banded with pure white.

Although the culture of this plant is always simple and easy, it must be remembered it has been for the most part neglected in our gardens. This

neglect is to be regretted, since the beauty of the new varieties demands that we regard the Pyramidal Aster as an annual of the first class.

This is indisputable, that true amateurs have for a few years sought for them, and have begun to bestow upon them the care which will improve them, and by which alone they can enjoy the charming appearance which the plant presents in its flowering season.

Convinced that the culture of this plant will give satisfaction to those who admire this queen of our gardens, I have yielded to the wishes of many amateurs by making known my mode of cultivation, in which I have had great success for many years. It is this culture which has enabled me to obtain many new varieties, not only remarkable for their perfection of form, the elegance of their habit and the size of flower, but also for the purity and richness of the various colors.

I. Sowing.

1st. The seed may be sown in two ways; in the open ground; in pots or pans, under bell-glasses, or in frames.

Sown in the open ground.

To protect the seed from cold, I prefer a southern aspect for the bed, and a soil nutritious, rich, light, and well mellowed, which I level and press lightly with the back of a shovel. I then place on the bell glasses or the frames which are to receive the sashes which protect the seed while germinating. About the 15th of March to the 1st of April (in this country it should be six weeks later), I raise the bell glasses or sashes and sow the seed, taking care to place them well apart and to press them upon the earth. After the seed is thus strewed, and after giving a slight watering, I cover it very lightly with fine, moist earth; then I replace the bell glasses or the sashes, which I cover with straw mats in frosty nights, and, during the day in clear weather, I shade slightly to break the direct rays of the sun. As soon as the plants appear, which will be in eight or ten days after sowing (according to the weather), I water gently whenever there is need, and give air gradually, taking care always to give as much air as possible to a plant which is not very strong, in order to render it more robust. During the day I take off the glasses or sashes which cover them, whenever the weather permits, taking care, however, to recover in the evening.

It is necessary to destroy the insects, which are very fond of the young plants, as soon as they appear above ground; the wood lice, the "loches," and the black spiders often, during the night, do much damage. One must be on the watch for the last, from the time the seeds come up till the plant is removed to the garden; (we are not troubled with the two last mentioned insects.)

The seed sown at this time and treated as I recommend, will produce plants which begin to flower early in August, and continue in bloom until September. It will be advantageous, in order to prolong as much as possible the flowering season, and to enjoy new flowers for a long time, to make several sowings, at ten or fifteen days from the first. In general, however,

the plants which are produced from late sown seed have not the vigor and beauty which characterizes those sown from the 15th of March to the 1st of April—a time to be especially chosen, if one wishes to obtain vigorous plants and fine flowers.

2d. *Sown in Pots or Pans.*

When I have but a few seeds of fine varieties, I use pots or pans, which I fill with rich earth, and am careful to drain well. I take care, in filling the pots, to level and lightly press the surface, so that the level of the soil may be an inch below the rim of the pot; when this is done, I sow the seeds and press them lightly upon the earth. I water with care, and cover the seeds very slightly with a fine, light sprinkling of soil.

When the sowing is thus finished, I cover the pots or pans with a pane of glass, which has been whitened by a little chalk mixed with water. This glass serves the purpose of breaking the force of the sun, of protecting the seed from field and house mice, and of preventing the evaporation of the moisture which is necessary for the germination of the seed. I then put the pots upon the greenhouse shelves, as near as possible to the glass, in a house where the temperature varies from forty-five to fifty degrees; or, what is preferable, I place them in a hotbed, covered with bell glasses or sashes, which in frosty nights I protect with straw mats. When the young plants appear, which will be in six or eight days after the sowing, I give a little air, by raising the pane of glass which covers the pot, and at this time I wash off the whitewash on the glass, so that the young plants may have as much light as possible; this glass is no longer necessary when the young plants have begun to grow tall. However, I always keep the pots or pans under bell glasses or frames, and I take care to place under frames the pots which I have started in the greenhouse, as above directed, as soon as the seeds come up. I water whenever the plants need it, and give air to the young plants in the same way as directed for plants sown in the open ground.

Section 2. Transplanting.

Transplanting is done in the open ground, in the open air, or under bell glasses or frames.

1. *Transplanting in the open air.*

The plants raised from seeds sown under bell glasses or frames about the 15th of March or 1st of April, should be transplanted from the 20th of April to the 1st of May; (in our climate about five weeks later.) This transplanting should be done into a light, rich, and mellow soil, and the roots covered slightly with fine earth. If this mellow, light soil is not at hand, and the ground is too heavy, cold, and compact by nature, it is best to transplant as directed in the second section of this paragraph.

When the plants are still small, I transplant, one by one, at a distance of seven inches at the most.

It is extremely important to transplant at the time above indicated—that

is to say, when the plant has developed its two first leaves, and before it has hardened and expanded its leaves; for, once arrived at this stage, we obtain several fine flowers if the kind is good, but it will be impossible to obtain plants which shall produce a hundred flowers at a time, and be the admiration and pride of the amateur.

After having transplanted, I water at the root of the plants, and, to facilitate their recovery, I water the following day if it is necessary, and prefer the middle of the day, for at this season the nights are too cold. I weed, redress, and water whenever the plants require it, till the time the plants are moved to their place, which should be in the early part of June, and not when the buds are formed ready to expand the flower, as is recommended in some works.

2. *Transplanting under bell glasses or frames.*

The plants brought forward in pots or pans are more tender, and shoot up quicker than those sown in the open ground, and should be transplanted as young as possible, that is, when they have developed one or two leaves.

This time, which it is of importance not to miss, is about three weeks after the sowing. As generally, at this season of the year, the temperature is still too cold to expose the young plants in the open air, especially if the nature of the soil is heavy and damp, it is best to transplant in the open ground under bell glasses or frames, and in a soil resembling as much as possible that described in the first paragraph of this section. I place fifteen to eighteen plants under a bell glass, eighty to a hundred under a frame of about one and one half square yards. To facilitate their recovery, I mould the earth around the root of each plant, I water, I shade slightly if it is necessary, but only during some days.

I give air gradually, and when the plants have recovered, whenever the weather permits, I raise the glasses or sashes which cover them, for it is well said, the glasses and sashes should not serve to force growth, but only to protect the recovery of the young plants, and to shield them from injurious changes of weather. To plants which have been thus transplanted, we must give the same care, and take the same time for replanting them in the open ground, as indicated in the last section. However, as these plants have been transplanted too thick, they should be removed and put out in their places, from the 20th of May to the 1st of June, and be treated precisely as before indicated.

3d. In the Flower Bed.

From the 1st to the 15th of June, or later, I transplant with a ball of earth, and in cloudy or rainy weather, or in the evening, the plants which have been brought forward, to the open air, and place each one thirteen to fifteen inches from the others; I do this into a flower bed previously mellowed and enriched with well rotted manure. I form hollows at the root of each plant; I water whenever there is need, and often during the day when the weather is hot and dry; and this attention renders their recovery easier and quicker.

It is of special importance that this recovery should be as rapid as possible, so that the plant louse and gray spider (red spider?) may not seize upon this arrest of growth, which is occasioned by the transplanting, to establish themselves upon the plants. Twelve or fifteen days after the transplanting, I give a second dressing, remove the yellow leaves which show themselves around the stalk of the plant, scoop out the hollows, and cover the surface of the earth with a light mat of straw.

Without being too lavish, I continue the watering whenever there is need. Thus treated, the plants are perfectly rooted by the 1st of July, and the flower stems which they develop are far stronger and stouter than they could have been if deprived of air and light. Yet this vigor of growth does not lead me to relax my care, for at first the principal branches must be staked, and then the ramifications; for, notwithstanding their elegant habit and strength, it is otherwise impossible for the plants, especially the dwarf kinds, which produce fifty to a hundred flowers expanded at a time, to resist the winds and the rain storms which prevail during their flowering season. If the weather is very dry, I water at the root more largely when the flower buds form, to excite a more vigorous growth, which is always advantageous to the flowers. During the flowering season, one must not water the flowers overhead, for the water, settling in the blooms, will cause the petals to fall or to curve back into a bad form.

4. Arrangement of Asters in Beds or Clumps.

The arrangement of the flowers in the garden is very important, and I hold that nothing is more satisfactory than a clump or mass, composed of one species or of a variety of plants. It is true, I always avoid planting in the same clump or mass plants of a different size or habit, for they always produce a disagreeable confusion. I am in the habit of gathering the seeds of my asters from different varieties, and I sow and replant in the same way; (it is a most excellent rule never to mix the seeds or plants, and should be oftener observed.) From this it results, as these asters possess the merit of seeding freely (with some exceptions in colors, and these only in varieties), that I give up the old method of gathering the seed and transplanting all the varieties together. This plan, still often followed, is most inconvenient, for it obliges one, whenever he desires to plant a mass of plants of the same color, to leave the plants in the nursery until they become strong and almost expand their flowers. And this is not the only inconvenience one has to contend with by the old method, for, if we wish to obtain strong plants, we must place them on the spot where they are to bloom when they are young, or of necessity must plant mixed varieties. So we come to this—that during the flowering season the eye distinguishes nothing but a variegated mass of different colors, always confused, and the effect is less brilliant than if the colors had been separated. By the method which I have practised, and which I cannot too highly recommend, I have the advantage of being able to set out my asters by separate varieties, and to transplant at the proper time. I have before said, that to obtain plants

which shall give blossoms of the greatest beauty, the plants should be set out where they are to flower when they are young and tender.

When the flowers begin to appear, during the hot and burning days of August, I place an awning over the plants in the morning, to break the too vivid rays of the sun. By this precaution, the flowers of the delicately colored varieties, such as the shades of rose, white, and lilac, remain fresh and brilliant for a week or more. In the evening, when the force of the sun has abated, I take off the awning, that the plants may enjoy the healthy dew of the night. During the months of September and October, to preserve the flowers as long as possible, I do just the contrary. During the evening I place awnings over the flowers, to keep them during the night from the white frosts and the cold dew, for at this season the abundant dew is more hurtful to the flowers than the frost. If the sun dissipates it rapidly, the flowers lose their delicate colors, and in a few days their freshness and beauty. At 9 or 10 o'clock in the morning, I take off the awning, that the plants may have as much light as possible, for at this season it is indispensable for the ripening of the seed.

5. Choice of Seed and Gathering.

The variety of asters which I have is very pure, and reproduces itself freely, so it is rare that I have to pull up a plant, among the great number that I raise, for bearing flowers of imperfect form. I have well established that the variations which take place in these plants are only due to the mixing of colors, for the habits of the plants, and especially the form of the flowers, always remain the same. The varieties more susceptible of mixing in their colors are—rose, which passes to white; deep one-colored violet, which changes to rose; the white has never produced other colors, yet clear lilac can pass to rose or white. This variation is not without interest, for it permits us often to obtain new tints on some plants which are well worthy of propagation. It is thus that each year I increase the number of the varieties that I cultivate.

The choice of the seed to save is a matter of importance. I mark the plants which have a perfect habit, and which produce flowers of a round pæony form, which are as perfect as could be wished. The flowers which I regard as perfect are those which are composed of a number of rays, showing the large, long tongue-shaped petals, which shine with the brightest and purest colors. Yet these varieties do not ordinarily give many seeds, and I attribute the small quantity of seed to the perfection of the flower. Each year verifies this fact; so the more perfect the flowers of a variety, the less vitality there is in the seeds, and they come up poorly. This imperfection is explained thus—in spite of the fair appearance of the seed vessel, the seeds are not fertilized well. I have said that choice asters do not produce a large amount of seed; I should add, that seeds do not occur in the centre of the flower, but chiefly in those first expanded, and it is unusual to find them in secondary flowers. All other things being equal, I take them from the flowers wherever I find them. I do in this contrary to the method recommended in the culture of the old varieties; for many

works which treat of the culture of the aster advise only to take the seeds from the circumference of the flower, (a good precaution, for these seeds, in most asters, are the largest and best; it is true, in the pæony-flowered aster, it makes but little difference); or to prefer those from the smaller cells, or those which ripen latest, (mere nonsense).

These remarks are of no importance in relation to the pæony-flowered aster. In gathering the seed, it is best to leave the long floral leaves adhering to it, and to choose a time when the sun has warmed the air and dissipated the dew. When I cut the flower stalks, I tie them in small bundles, each variety by itself, and marked with a tally. These bundles are then suspended in a dry, well-aired place, in order that the heads may dry.

6. Diseases and Hurtful Insects.

The aster is subject to a disease, the first symptoms of which appear in the leaves. When this change appears, the leaves roll themselves up, fade and dry up, and the plant dies, even though it may have good roots. I have tried to discover the cause of this disease, which happily is accidental; but all the observations which I have made have failed to show me the cause.

The chancre is a disease which attacks the stems at the level of the ground. One scarcely knows it till the aster dies suddenly. Then the stem presents a yellow and livid color. Ordinarily this disease, so disastrous, does not show itself till the flowering season.

The wood lice are very injurious, and they commit considerable ravages on the young plants. There is a simple way to destroy, every day, a great number; it is this—cut large potatoes into two parts, and hollow them out; when thus prepared, place them near the young plants, taking care to invert them so they may form small bells, (when the insects find the fresh place they will take refuge in the hollow); then the evening and the morning are the times to examine, with care, each of the pieces of potato, and thus a great number can be easily destroyed.

These insects are not alone hurtful; the slugs commit great ravages, and should be searched for with care and destroyed. This should be done in the morning, evening, or after a rain.

Then there is the *black* spider, which, during the day, keeps at the surface of the earth; it is principally by night it commits its ravages.

All horticulturists know the gray (red) spider. This insect particularly attacks asters, and to check its ravages one must water frequently; moisture is fatal to this spider, arrests its ravages, and favors the growth of the plants.

The plant louse is an insect which does the most damage to asters. It increases greatly by families, and attaches itself to the end of the flower shoot, which it causes to curl up; when it is abundant, it arrests the growth of the branches and buds, from which it sucks the sap, living among the scales of the calyx. They can easily be destroyed by throwing, in dry weather, a strong decoction of tobacco water or smoke upon the infected parts of the plant.

(The insects above described very seldom trouble the aster with us; the plant louse and the red spider are well known, and are easily destroyed by the methods given above.)

HINTS ON THE CULTIVATION OF THE GLOXINIA AND ACHIMENES.

BY JAMES McTEAR.

With the recent introduction of so many new and beautiful greenhouse plants, some of which present no ordinary claims on our attention, the beginner and those of limited accommodation generally find it a very difficult matter to make a judicious and limited selection.

All flowers are beautiful, many are preëminently so, and some for their long-blooming qualities, easy cultivation, and elegant habit of growth are special favorites with all. There are few plants with these qualities so conspicuously combined as the present. Nature has been lavish in her gifts, and the magic touch of the hybridist has been productive of new and striking forms and tints, and hues of every color. Unable to bear the scorching sun, cold withering winds or chilling rains, their cultivation can only be successfully practised under glass; and whether in the lowly pit or more costly and imposing conservatory, they are always pleasing and interesting, never failing to strike the attention of the visitor through their brilliant and charming appearance. Gloxinias and Achimenes, though resembling each other in many respects, and thriving under similar treatment, are by botanists considered separate genera. What the botanical difference is does not seem to be very well understood, botanists themselves not always agreeing on this point, some of the lately introduced species making it a matter of grave discussion to what particular branch of the family they belong.

For the convenience of classifying and giving a list of the most popular varieties of each, with a few hints on their general character and cultivation, it will perhaps be more satisfactory and proper to make a few remarks on each, separately, beginning with what most will consider the head of the family, and finest of gesneraceous plants—the Gloxinia.

Few plants are so showy and useful for the greenhouse or conservatory during the summer months, and few are so comparatively unknown. Their propagation is simple and easy. Their growth is vigorous, and their habit dwarf and handsome, blooming in great profusion, and retaining their splendor for many months. As they are readily grown from seed which ripens freely, and being peculiarly liable to sport into new forms and colors, they are interesting alike to the gardener and amateur, and all who have time and taste for hybridization. The introduction into our greenhouses of so many fine varieties is only of recent date, and for these we are principally indebted to the skill and perseverance of the hybridist. A few years

ago our best greenhouses could only boast of a few kinds, kinds now seldom seen. The original species were few, and though highly valued for years after their introduction are now almost unknown. G. maculata, G. speciosa, and G. caulescens are the kinds from which have sprung the present numerous and beautiful hybrids, G. speciosa being the parent of most of them. A light blue species, named hirsutus, is sometimes met with in rare collections. It is the smallest and neatest of the genus, but of less vigorous growth and seldom ripening seeds it has met with little favor in general collections. But it has beauties peculiarly its own. The leaves are smaller, more rounded, and covered with fine silvery hairs; the flowers very much resembling the Streptocarpus Rexii. Many efforts have been made to obtain a cross between it and the varieties of speciosa, but always, it is believed, without success.

Gloxinias are now, for convenience' sake, divided into two classes; the old fashioned drooping-flowered Digitalis-like kinds, and the erect varieties, with campanulate flowers, reminding one of the old Canterbury bells. G. Fifyana, the first of this novel class, producing constantly erect flowers, was a sport from the drooping varieties; being much and deservedly admired and extensively cultivated, it soon produced seedlings of superior brilliancy, which, although not much known in this country, will, it is hoped, through an increasing taste for new and beautiful flowers, be soon as plentiful here as they are at present in European gardens.

The Horticultural Society, through its prizes offered for collections and for seedlings of superior merit, may do much in increasing their cultivation and popularity—a result very much to be desired—the best kinds requiring no more care nor attention than the poorest varieties. Some very striking kinds are peculiarly fickle and chameleon-like in their habits of blooming, changing from striped to self-colored flowers, and from drooping to erect, or both, on the same plant. G. Teichlerii, a well-known striped variety, sent out a few years ago, gave great dissatisfaction for a season. Instead of being red and blue it came mostly red, not one purchaser in ten getting a striped flower the first season. They naturally considered they had not obtained the desired variety. Some tossed it to the rubbish heap, in disgust at what they called the tricks of the trade. Others, with a little more patience, and a better knowledge of the habits of the plant, kept it for another year's trial, and were amply rewarded for their previous disappointment, the flowers mostly showing the desired stripe. And so with Annulata superba, a new and very striking variety, producing several kinds of flowers at the same time, erect, half-erect, and drooping; the erect flowers being deeply marked all round the tube or throat with deep bluish purple, the drooping kinds having a blotch only on the lower side of the throat. This inconstancy in the flowering habits of a few of them is by no means mentioned as anything desirable, or improvement on those of steadier habits, but merely to show how much it is their nature to sport, and the effects of crossing and recrossing with kindred varieties. In raising new varieties of any kind of flowers our enthusiasm generally weakens our judgment; we are too apt to see points of excellence where nobody else can perceive

them. The least possible difference from a flower of the same class is noticed, and in exaggerating terms; we shut our eyes to its defects, or, in our vanity perhaps, cannot see them; and, hoping that others may be as blind as ourselves, we conclude that it is worthy a name and an introduction to the public; the name, in general, being a very high-sounding one,—thinking it may be an additional attraction for public favor. In this we are very much mistaken. We may, it is true, through the aid of sounding puffs, brilliant description of properties, and incessant blowing of trumpets, send our pet before the public, deceive a few enthusiasts who are always on the look-out for novelties, pocket the proceeds, and think ourselves benefactors. But what does it amount to? Our character for veracity and fair-dealing is shaken. Our judgment is condemned, and our motive is ascribed, not to vanity and inexperience, but to far more selfish and interested objects. The Society's officers should do all in their power to check this growing evil. Their duties are arduous, and often unsatisfactory. They should be men of experience and discrimination, and above suspicion, honestly and fearlessly discarding all inferior varieties, and only giving to those of superior merit and excellence the benefit of their official endorsement.

Gloxinias are not wholly dependent on the beauty and duration of their flowers. They have other attractions; their habit is everything that could be desired, dwarf, neat and compact, with ample rich green, velvety leaves, spreading and overhanging the pots, giving a very pleasing and unique appearance; few plants having the three great points so eminently combined—fine flowers, fine foliage, and fine habit of growth. And if the value of any genus is increased in proportion to the production of handsome and superior varieties, resulting from impregnation with the species, the present has made, within the last few years, considerable progress in this respect—catalogues of some of the English growers containing upwards of eighty select varieties. These showy and splendid kinds, all the results of the transference of the pollen from one kind to another, give every encouragement to look for still further success in their improvement. They are easily propagated from the seeds, by cuttings or by leaves, and sometimes by dividing the root in spring; the latter way will give nice blooming plants the same season; but when a large stock is required of any particular kind the leaves are most suitable. The leaf may be cut up in several pieces and placed on moist sand. Every little piece will grow and form a bulb. Or the leaf may be planted entire, inserting it an inch or so in the sand. Where plenty of leaves can be spared this is undoubtedly the best plan, as they make stronger bulbs the same season; some of them even blooming. But it should be borne in mind they root more readily in the early period of the plant's growth than after blooming. The soil found most suitable for their growth is good turfy loam and decayed leaves, with a liberal admixture of well-rotten and rather dry cow manure and sharp sand; the whole thoroughly incorporated together, taking care not to make it too fine; large pieces may be chopped with a spade, but do not, on any account, use a sieve. In potting, drain well; this is of much importance to their future health and beauty. Shake rather than press the soil round the root,

slightly covering the crown. The usual time for potting them is from January to April, or as soon as they show signs of returning growth. Place them in a warm corner of the greenhouse; a stove or heated grapery would be still better, and give water sparingly at the root, syringing them mornings and evenings, in fine weather, until they emit fresh roots, when they may be supplied more liberally. When fully established, after potting, they may be placed on a shelf, near the glass, shading them from the bright rays of the sun. A temperature of from 65° to 75° will soon hasten their growth and fill the pots with roots, the leaves, as they spread and extend over the pots being, in the early stage of their growth, particularly rich and attractive. In ventilating, be careful to protect them from cold winds, which soon check their growth and predispose them to the attacks of insects, more especially a small species of thrip, which, if not stopped, soon disfigures them. Sulphur, soot, and sometimes Scotch snuff, are used for this purpose, but a preventive is much easier and better than a cure. Keep them steadily growing, in a warm moist atmosphere, and little trouble need be given about insects. As soon as the pots are filled with roots another shift will be desirable; this will be found in ordinary culture all they require. Some of them will be showing flower buds, and the tall branching kinds will require neat sticks for support, though most of them, being of strong dwarf habit, will not require any. As the flowers begin to open they will bear with advantage a rather cooler and drier temperature, still guarding them from cutting winds, and continuing to shade them from the mid-day sun. The flowers will be finer and clearer in color, besides remaining much longer in bloom.

Plants thus treated will continue a mass of bloom for a long time, giving the greenhouse, at a time when choice flowers are scarce, a brilliant and charming appearance. After blooming they require very little water; once a week or so will be found sufficient, until the leaves drop off, when it may be altogether discontinued, when they may be placed under the stage, guarding them from drip. If this cannot be conveniently done the pots may be placed on their sides, which will be all the care they need for several months, except an occasional inspection, as some of them may start prematurely into growth; or, if the root begins to shrivel, a little water might be given, for the plumper the bulb can be kept the greater will be its vigor in spring.

Annexed are two lists; the first, selected from fine established kinds; the second are all new, few of them being yet in this country. They are mostly erect, flowering varieties, this class of flowers being more popular at present, being rather scarce, and offering most room for improvements. They are sure to be extensively cultivated, and, as a natural consequence, must be procurable at a rate much reduced from their present prices :—

GLOXINIA ALBA SANGUINEA—white, with rich carmine throat; of excellent habit, and blooms profusely.

G. ALBA GRANDIFLORA—a fine and distinct variety; pure white throughout tube and lips.

G. ANNULATA SUPERBA—white and deep violet purple; a singular and beautiful variety, with erect and drooping flowers borne on the plant at the same time.

G. AUTOCRAT—deep pink, with spotted throat and purple blotch; the lips suffused with bright crimson.

G. BAILLIE NICOL JARVIE—blue, with purple throat; fine form and habit; a very neat flower.

G. BOYELDIEU—lilac blue, edged and mottled with white; novel and pretty.

G. CARTONII—carmine and pink; a fine old variety, with tall branching habit; blooming for a long time.

G. COMPTESSE ANNA—blush, with white throat and pink tube.

G. COMPTESSE DE BARRAT—pale lilac, suffused with lavender; centre white, with pale purple markings; novel and pretty.

G. DAPHNE—pink, edged with white; violet throat.

G. DR. LINDLEY—white, suffused with pale blue.

G. FREDERICK LENNING—porcelain blue, with fine white throat.

G. FIFYANA—flowers erect and constant; white, marked all round with violet purple; dwarf and free.

G. GRANDIS—beautiful blush, with crimson throat; fine form and substance.

G. HOOGEVEN—blue, edged with white, and a white throat; a free bloomer, and excellent habit.

G. ISABELLA—white, with broad stripe of bluish purple on the throat; very neat and dwarf; abundant bloomer.

G. JENNIE—a fine and pleasing variety; white, with purple blotch; the lips shaded with violet blue; flowers sometimes erect, but oftener drooping; good dwarf habit.

G. MADAM AGLAE ADENSON—blush, suffused and margined with lilac, dark spotted centre.

G. MARIA VAN HOUTTE—white, suffused with pink, lemon throat, shading to bright carmine; good form and substance; very fine.

G. MRS. BECKER—large deep pink, purple throat, suffused with carmine; excellent substance and form; a free bloomer, and in every respect a very superior flower.

G. PRINCESS DE LAMBALLE—bright red, with white throat.

G. SPECTABILIS—light purple, with large, rich velvety purple mouth and beautifully spotted centre; good form and texture, fine.

G. TEICHLERII—crimson, striped with blue; novel and pretty, but rather uncertain.

G. VICTORIA REGINA—lilac blush, with intense purple throat; large and fine.

G. WILSONII—white and light carmine; a fine bold flower of vigorous habit and free bloomer.

G. WORTLEYANA—large pale blue, white and violet spotted throat; rather straggling habit; a fine variety.

NOVELTIES.

Gloxinia Donna Colonna—centre of tube pure white, with circle of dense violet rose surrounding the mouth, the color extending half way up the pure white sepals.

G. Eloisa—centre of tube deep violet crimson, with white sepals and tube, new in color.

G. Tarragona—centre of tube rich crimson, except at the base, which is white, spotted with crimson; lips pure white; flowers large and fine.

G. Sir Hugo—(not erect flowering)—deep violet purple, with a slight marking of white through the lower petals; said to be the finest of this color in cultivation.

G. Beatrice d'Este—(not erect flowering)—fine, large open-mouthed flower, generally producing six petals; color white, with a dense blotch of violet puce covering the three lower petals; free bloomer.

G. fulgens—rose colored tube, with purplish crimson throat; fine.

G. Princess Royal—white, with mottled blue throat.

G. Lady K. Hamilton—tube and throat glowing crimson; lobes shading off to rose; a magnificent variety.

G. Lady C. Molyneaux—bright crimson tube and throat; edge of the lobes margined with pure white.

C. Minie—(not erect flowering)—the tube and upper lobes white; the throat and front lobes deep violet blue, with a white margin; a large and finely formed flower.

G. Carlo Maratti—(not erect flowering)—pale colored tube, with violet-blue lips, pure white throat; fine substance and good form; the leaves distinctly veined with white, rendering it a very picturesque plant when not in bloom.

G. Claude Lorraine—(drooping)—pure white, with bright scarlet blotch or band round the margin of the throat.

G. Comptesse d'Oulbremont—rose and white; new and beautiful variety.

G. Guido Reni—tube and outer lobes white, with crimson centre; fine.

Before leaving the subject, a few words on the management of plants from seed may be interesting to beginners. Seeds may be sown almost any time where the proper heat is at command, but the spring is undoubtedly the safest season. The plants will be sufficiently strong by the beginning of winter to prevent any danger of their damping off. The seed should be sown on a very light rich soil, and being very minute can hardly be too lightly covered. After a sprinkling through a fine rose they may be placed in a hotbed, if at hand, or in a warm corner of the greenhouse. They will appear in ten days or more, according to heat and other circumstances. Shade them from the sun, and keep the soil moist by syringing or otherwise. As soon as the leaves are large enough to handle, thin and prick them out into other pots or pans, carefully nursing them for a few days afterwards, to prevent any check to their growth. By the end of July or August they ought to be sufficiently advanced to need another shift, when they may be potted separately, using a richer and rather coarser compost,

choosing pots according to the size of the plant—say from 3 to 5 inches in width. This may be considered the last shift for the season, as the plants will be much easier wintered when not overpotted. And if kept in a moderate heat they will retain most of their leaves through the winter. Where large quantities are grown, and where room is an object, they might be allowed to bloom in the same pots, throwing away all inferior kinds, and saving those of doubtful merit for another year's trial. Should any appear of decided merit they will be sure to be cared for without any advice, and be perhaps valued by the raiser higher than they deserve.

As a general rule, no seedling of any kind should be considered very fine or extra, unless, in a majority of points, superior to anything of its class. We can only judge them relatively. A flower may be *very fine* this year; and next year, through the introduction of superior varieties, only *very good*, or *fine*.

It is all very well for those who produce them, for we readily understand their motives, when they talk about this or that variety superseding everything in its class. The tale has been told too often; the game is nearly played out. The enthusiast even begins to ask and find out their merits from parties who they may know to be disinterested. They and the public want an experienced and honest opinion; an opinion founded on the peculiar merits of the flower alone. And if raisers of seedlings will not submit them to the ordeal of public competition they will be naturally looked on with strong suspicion. But, in fairness to the exhibitor, the names of the censors, and the reasons for their decision, should be known, which, if not always satisfactory, might be, at least, instructive to the unsuccessful competitor.

ACHIMENES.

This is a very extensive genus of ornamental plants, and very nearly allied to the Gloxinia, requiring in many respects similar treatment. They are well known for the brilliancy and variety of their flowers, their easy culture, and long duration of blooming. Nor is it surprising they should be favorites, with all who have the means of growing them, for if it is an object to make the greatest possible display with the least care and attention, few plants are equal, certainly none superior to this lovely and charming genus.

Many beautiful varieties have been raised from seed, and much improvement, it is hoped, will yet be made in this respect; the field is wide, and the species are numerous, and exceedingly varied in habits and general appearance, in consequence of which, much confusion and uncertainty has attended their arrangement and classification.

The brilliant and well known Achimenes coccinea, and the first of the tribe known in England, was cultivated for several years under the name of Cyprilla pulchella, and Trevirana coccinea. With the introduction of A. longiflora, A. grandiflora, and other beautiful kinds, the former names were discarded, and Achimenes soon became popular and much sought after. The indefatigable exertions of the botanical collector, aided and encour-

aged by the liberal spirit and enterprise of a few leading nurserymen, supplied the demands, adding fresh novelties every season from Mexico and Brazil, where they are found in great abundance growing in woods and shady places, where the earth is little more than rotten leaves, bark, and decayed wood. This knowledge of their native haunts, and light and open soil, in our efforts at successful cultivation, should never be lost sight of. We may with advantage add a richer and more stimulating material, for experience tells us that plants, when confined to pots, will bear with advantage a stronger compost than that they may have been accustomed to in their native wilds. But to those desirous of growing only moderate sized plants, with plenty of bloom, nothing is better than a mixture of coarse fibrous peat, half-rotten leaves, and clean, sharp sand.

Some of the recently discovered species, are very distinct from the original kinds, and seem an intermediate link between them and Gloxinias, giving much trouble and dissatisfaction in their nomenclature. Others again, apparently distinct from either, were the cause of the formation of several new genera, or rather sub-genera, for they will in the end undoubtedly turn out to be Achimenes, as their habits and botanical affinities are better understood, and the new names of Lochiera, Mandirola, Tydea, Scheeria, and the unpronouncable Sciadocalyx Warscewiceii, will soon be like the Cyprilla or Trevirana, forgotten or unknown. It is very probable that most of those alluded to will hybridize freely with the true Achimenes, and possibly some of them with the Gloxinias. Should it prove so, (and a year or two will decide,) what was the necessity for placing them in a new genus where they are unlikely to remain? Botanists have always been considered rather fond of the honor of standing godfather to a new genus, and, for the most trifling differences, separating families which afterwards had to be replaced where they most properly belonged. Nor are nurserymen in this respect one whit better; with them, a new genus is superior to a well defined and distinct species, as it will sell faster, and at a higher price; consequently we find Locheria magnifica, Tydea amabilis, &c., changing in a year to Achimenes amabilis, Achimenes magnifica—the first year and under the first name selling at five dollars, the second year for fifty cents. It would hardly be possible to sell many plants of Achimenes at five dollars each, however fine and distinct they might be, but when it is called a Locheria, or Tydea, with specific names so attractive as amabilis or magnifica, it is not easy to avoid the bait.

But it occurs frequently in other plants besides the present, and plainly shows the need of some well defined and easily understood rules, as to what actually distinguishes a genus from a species. True, we are told that kinds which will hybridize together and produce varieties, can only be regarded as species of the same; on the other hand we have well authenticated instances of separate genera breeding freely and producing very distinct mules or hybrids. Rhododendron and Azalea, for instance, are the parents of many beautiful and well known kinds. Other instances if necessary might be mentioned, and with the same results, but this is not the proper place to enter more fully on a subject so difficult, and so little

understood, my object being to point out the inconvenience and confusion attending the repeated changing of names, with a hope that some, who have the necessary experience and knowledge, may direct their attention and labors to the subject.

Achimenes may be either grown separately, or in masses of eight or ten roots in a large pot, or, what is better, a shallow pan; if grown singly, they have a very pleasing, though not so showy appearance, as in masses. In the spring, about the first of March, their little imbricated roots will show signs of returning vegetation, when they ought to be turned out of the pots and the roots separated, being careful not to bruise or break them, as the soil is frequently hard by being kept dry all the winter. The strongest roots should be selected and carefully potted, covering them half an inch or so, taking care to drain well; four inch pots will be large enough to begin with. They should be placed where they can receive plenty of light, and a moist, warm atmosphere; keep the soil moist by syringing, using water ten to twenty degrees warmer than the air of the house; this is of much importance to plants growing in hot temperatures, and tends materially to check the ravages of insects. As soon as the pots become filled with roots, they ought to be shifted to others larger, repeating it as often as necessary until the plants show bloom.

If grown in masses, their treatment is somewhat different, most gardeners growing them under the one-shift system; it is attended with less trouble, and, as the roots are increased in great abundance, it is the most common way of growing them, except new or scarce kinds. A little extra care is necessary in the beginning not to overwater them until they get into their proper leaf;—the syringe, during the first stage of their growth, will be generally found sufficient. Tie them to neat stakes as they advance in growth, and water liberally as they are showing bloom. A few of the slender-growing kinds are well adapted for suspending in baskets from the rafters, and this gives a novel and pleasing effect. They are propagated easily by cuttings, and sometimes by seed, but by the root is the usual way for general purposes, as they are found to increase rapidly enough to meet all demands. Part of the stock of roots, by keeping them rather cool and perfectly dry, may be kept dormant to the end of May, when they may be potted and treated as the others. They will bloom nicely during October and November, or even later, some of the new kinds, it is said, blooming all winter.

The following selection, with the exception of those marked (new), is distinct and fine, and worthy of a place in every greenhouse. The new kinds, many of which, it is believed, have not yet flowered in this country, (their descriptions being taken from a source in which great confidence is placed,) will, to use the expression of a person in speaking of his pelargoniums, "in due time make a sensation."

Achimenes coccinea—a well known and beautiful plant, with neat branching habit and bright scarlet flowers, produced in great abundance from September to December.

A. grandiflora—large rosy purple flowers, white centre.

A. LONGIFLORA—flowers large, deep blue, an early and abundant bloomer, and well adapted for suspending. There is a new variety of this fine kind with larger and finer flowers, but only having grown it one season, I cannot say much of it in other respects.

A. LONGIFLORA ALBA—a fine and distinct variety of the preceding, with large white flowers faintly tinged with purple.

A. BAUMANNIA—large purplish crimson, vigorous and fine.

A. PICTA—a very distinct and handsome species, with variegated leaves; the flowers are yellow, spotted with scarlet, and formed like a gloxinia; it likes a good brisk heat.

A. PATENS—very neat dwarf habit, flowers purple.

A. CUPREATA—bright scarlet, trailing habit, excellent for baskets.

A. AMBROSE VERSCHAFFELT—fine white, with petals blotched and streaked from the centre with violet crimson; an early and very profuse bloomer; very fine.

A. FIMBRIATA, (Gloxiniæflora)—large creamy white, finely spotted, a fine bold gloxinia-like flower.

A. DR. HOPF—white, with rosy lilac centre.

A. CARMINATA SPLENDENS—brilliant carmine, fine.

A. CHIRITA—fine ultramarine blue, shaded with red, white throat, gloxinia form.

A. PARSONII—rich brown, or salmon crimson, orange centre, fine form and substance.

A. MARGARETTA—a large and excellent white variety.

A. ROSEA ELEGANS—bright rose, elegantly spotted centre, dwarf bushy habit and great bloomer, much superior to the old "rosea."

A. SIR TRAHERNE THOMAS—beautiful rosy carmine.

A. PICTURATA—brilliant rose color, with dark spots, very handsome.

A. PURPUREA MULTIFLORA—purple carmine, yellow centre, dwarf and free.

A. EDMUND BOSSIER—white, veined with dark lilac, a fine free blooming variety.

The following new kinds are said to be very distinct and fine; few of them, it is believed, have yet been introduced to this country:—

A. (TYDEA) AMABILIS—dwarf plant, with elegant rose-colored flowers, with streaks and spots of dark rose.

A. (TYDEA) ARGYRONEURA—a very distinct variety, with handsome foliage; the flowers are tubular, the upper part and top lips scarlet, lower lips yellow, spotted scarlet.

A. BELMONTIE—a beautiful hybrid of the longiflora class, with rich, deep, violet-tinted, plum-colored flowers, very large and fine.

A. (TYDEA) BARON DE PRET—a very free flowering new Belgian variety.

A. CARL SCHULE—rich crimson, very fine.

A. DR. BUENZOD—purple-crimson and orange, with red spotted centre, distinct.

A. DENTONIA—a neat, slender-branched kind, with medium-sized dark

green foliage, and a profusion of circular-lobed, clear rosy lilac colored flowers, nearly two inches wide.

A. (Tydea) Eckhautii—a Belgian variety, rich carmine, with dark spots and lines, beautiful and close habit.

A. (Tydea) gigantea—orange and scarlet, fine foliage, a robust and winter blooming variety.

A. (Tydea) Leopard—a very novel and large spotted seedling from gigantea.

A. Leighii—a compact, free blooming, early variety, of neat habit and light, violet-tinted, purple blossoms.

A. (Tydea) occulata picta—a fine rich flower, with bright scarlet lip and black spots; tube rose and yellow shaded.

A. (Sciadocalyx) Warsewitcei—a pretty rose-colored flower, with shaded yellow and green lips, with black spots, very distinct.

A. (Locheria) magnifica—a gloxinia-like flower, rich crimson, with black spots and stripes.

A. (Mandirola) lanata—fine white and pinky lilac shaded, gloxinia form.

A. (Mandirola) Roezli—large and velvety leaves, of the habit of Gesnera zebrina, striped and marbled with black, flowers beautiful rose, shaded lilac.

THE CULTURE OF OUR NATIVE PLANTS.

BY THE CHAIRMAN.

The truth of the old saying, that man is never satisfied with what he possesses, is well exemplified in the passion now so prevalent among all our gardeners and amateurs for importing new plants. That this is to be condemned, while exercised in moderation, is no part of our theory; to it we owe many of the flowers which now are the pride of our gardens. Had it only given us one plant, the Dielytra spectabilis, we might well praise it; but the question arises, are we not going too far, and for a questionable advantage afar, are we not neglecting much that is quite as desirable, and perhaps far more beautiful, close around us? It has been sung—

> "A man's best things are nearest him,
> Lie close about his feet,"—

and most true it is that among our native plants, those which we may find in abundance in every wood and field, there are many which far excel in beauty the greater part of our carefully imported new varieties.

But it may be said there is too little novelty and excitement attending their culture; why should we fill our gardens with what every roadside produces?—two very fanciful objections. In the first place, the difficulty of introducing and retaining in the flower borders many of our beautiful indigenous plants is quite sufficient to give zest to their cultivation. Has

any one as yet been able to give the details of a well conducted and successful experiment of cultivating the Girardia flava, glauca, or pedicularia, or the Trillium pictum? Has a collection of our native asters ever been made, or, if made, has it received merited attention?*

Again, many of our native plants are quite uncommon; so rarely met with, indeed, that only the botanist can give you their names, tell their habits, or claim their acquaintance. Others, though less uncommon, are only met with in particular localities, though in those places very plentiful. Others, again, are widely diffused, but little known, for want of careful observation; and others, so common as to be familiar to all, are little appreciated, for the very reason that they are so well known.

Now, what a vast field for study, pleasure, and improvement at once presents itself. We have the materials close at hand; nature, ever lavish in her gifts, presses them upon us, and all she asks is for us to use them. The subject divides itself at once into many branches, a few of which are:—1. The cultivation of our more common native plants, with a view to their future improvement by high cultivation and rich manuring. 2. Hybridization of garden and wild species; the production of seedlings, which, retaining all the hardiness of their wild parent, may partake, in a measure, of more brilliant qualities in the more tender garden plant. 3. The production of double flowers, by high cultivation or from seed. 4. The cultivation of the rarer varieties of our wild plants, the adaptation of soils and exposure, with a view to their increase and more general dissemination, and, as a natural consequence from this,—5. The diffusion of knowledge of the habits and beauty of all our native plants, and thus the introduction of them into general cultivation as border flowers.

To treat these different branches of our subject in order, to do full justice to each, and give a detailed account of experiments which have been or might be tried, would far exceed the limits of an ordinary report; therefore, dwelling for a few moments on the most important, and giving but a cursory glance at others, we will endeavor, in a few words, to hint at what has been and what might be done, and give a short list of the flowers most easily experimented upon, and of others which, from the difficulty of their culture, have as yet set at defiance the attempts made to bring them into cultivation.

Our first head is one which is open to experiment for all; no particular skill is required to transplant a native flower, and by high cultivation improve it in size, color, or growth. We have many native plants which in this way have been improved. But little has been done, comparatively. The field is one of great extent, and will well repay a course of well conducted and careful experiments. Much of the effort has been desultory—little noted and still less achieved, because generally estimated of little

* Since writing the above, we have learned that F. Burr of Hingham (a botanist of much experience) has a fine collection of our native Asters in cultivation, and we look for the future of the experiment with great interest. Thus far it has succeeded, the plants improving greatly.

importance. Twining over almost every roadside fence, and especially delighting in a little dampness, grows a pretty species of Morning glory, known as the Wild Morning glory. I know of no prettier sight than a low thicket, early in a June morning, spangled with its pretty pink blossoms. To botanists it is known as Convolvulus sepium, or Large Bindweed. Leaves arrow-shaped, of a beautiful green, the posterior lobes truncated; flower pink, often marked with white, and sometimes pure white; at the base of the flower are two heart-shaped bracts, which appear like a calyx; the stem is twining, often climbing to a height of twelve feet.

Now this common plant, in cultivation, is a most beautiful object. It is not open to the objection urged against our cultivated Morning glories—that the frost too often spoils their beauty; they are mostly annuals, but this species is perennial, and perfectly hardy. Early in spring it comes up and grows with great rapidity; about the middle of June the flowers appear, and continue in great profusion for nearly two months. It does not produce seed readily, so the easiest way of obtaining it is to transplant. In cultivation, the size of both flowers and leaves is greatly increased; you cannot make the soil too rich; dampness, but not wet, is also favorable to its growth, and a more beautiful object for covering a trellis cannot be desired.

There is also a smaller variety of Bindweed, with white flowers (Convolvulus arvensis), not so common or desirable, also a climber; and an erect, and far rarer species (Convolvulus stans), which we believe is not found in Massachusetts, and which we have never seen in cultivation.

But by far the most desirable of our hardy Convolvuli is C. panduratus, a most noble climber. The remarks made in relation to C. sepium apply equally well to this variety. About the 20th of June (for it is late in coming up), the eyes push from the large tuber, and the shoots soon appear above ground, often as large as one's finger. The growth is most rapid; we have by measurement found a shoot to grow three inches in a warm night. The vine will climb to the height of twenty feet; flowers pure white, with purple eye, very large, in clusters. A specimen of this variety in our own garden this last summer was a noticeable feature; it formed a column of green, fifteen feet in height and from one to two feet in diameter.

In meadows producing an abundance of dark purple, nodding flowers, is found a pretty species of Geum, (G. rivale.) The flowers can hardly be said to possess much beauty in themselves, but a mass in a flower border is a conspicuous feature. We have often carefully removed it when in full bloom, and found it to suffer very little from the operation, as it continued to expand its flowers, and the next spring came up in fine health. This plant is susceptible of great improvement in the flower border; a damp spot is most favorable to its growth, and a peaty soil, if possible, will produce finer plants; I have, however, grown it well in a rich, damp loam. Whether in flower or fruit, this plant is a beautiful object; and increased in size as it is by cultivation, we would not have our flower border destitute of a specimen.

A common border flower is Actæa spicata, well known in Europe and

this country, but we have in our woods two most beautiful native species, perhaps not so showy, but by no means less worthy of every care and attention.

Actæa alba and rubra are thus distinguished by Bigelow: "A. rubra—raceme, hemispherical; petals, shorter than stamens, acute; pedicels of the fruit smaller than the peduncles. Actæa alba—raceme, oblong; petals, equal to the stamens, truncate; pedicels of the fruit as large as the peduncle. The flowers of both are white, and produced about the end of May; leaves of a dark green, heart-shaped, cut and toothed; berries shining red and milk-white, according to the species."

We have seen these plants grown in great perfection in the Botanic Garden at Cambridge. Their culture is by no means difficult, and will well repay the amateur. Plants may be removed from the woods, or raised from seed.

A pretty plant, in its wild state, is our common Geranium, (G. maculatum.) It grows along every hedge, and nods its pretty purple flowers in the May sunshine. For years we have been importing new varieties of the kindred species Pelargonium, and nurture with care in our hothouses the pretty varieties of the delicate Erodium; but this quite as beautiful and far easier cultivated variety is unnoticed. Nothing can be more ornamental than a clump of this variety in the flower border. The flowers are produced in abundance, and vary in color from pink to dark purple. We once met with a plant which produced blossoms almost pure white, but considered it the effect of a shady situation rather than a peculiar habit of the plant, but we have since regretted we did not transplant it to the garden. By cultivation, the plant increases greatly in size; the flower stools become more numerous, and, though we have never seen single blossoms larger in the cultivated state, yet much might be done in this way by careful culture.

Aquilegia canadensis is another plant greatly improved in size by cultivation, though the individual flowers remain unchanged. Among all our choice varieties of Columbine, we have none that can equal this, our native variety, in symmetry of form or richness of color. Though often exceeded in size, and never, to our knowledge, rendered double by cultivation, yet we would choose this above all the Columbines for grace and beauty. What a field for hybridization between our garden species and this variety is open, and yet, if attempted, we have never met with any results. Will not some amateur experiment in this direction?

One of our earliest flowers of spring is the Bloodroot (Sanguinaria canadensis), a little gem of a blossom. Early in May it pushes up its bud, sheathed in the folding leaf; a day of warm sunshine and the flower is open, and the white petals seem to fold the golden stamens as if to shield them from injury. Though by no means a conspicuous flower, it is well worth a place in the flower garden, if for nothing else because it is one of the first flowers to wake from the sleep of winter. In the latter summer months the leaves grow large and spreading, so as to seem to belong to another plant. The seed capsules are very curious, and the seed is en-

dowed with a peculiar white appendage, clinging to one side and projecting. The plant is of the easiest culture, and increases in size and beauty.

A beautiful plant is found in damp woods, known as Jack in the Pulpit, and by many other fanciful names. To the botanist it is Arum tryphillum. It is a singular and very beautiful plant; the leaves dark green; scape erect, round, green, variegated with purple, supporting a large oval acuminate spathe, rolled into a tube at the bottom, but flattened and turning into a hood at the top. Its color varies greatly in some plants, being green, marked with white; in others white and purple, and again almost black; in some again it is beautifully striped; the plants are fertile and barren; the fertile ripening a compact bunch of bright, shining, scarlet berries. In cultivation this plant increases greatly in size and beauty; its culture is very simple. Transplant the root, which is a flattened round bulb, and the plant needs no further attention. A little shade is advantageous, and a moist peaty soil necessary, and these requirements being furnished it will come up year after year, producing its curious blossoms in great profusion.

There is another species of Arum, or rather Calla (C. palustris) which much resembles C. Æthiopica, though much inferior in size. As it is an aquatic plant it can only be cultivated by those possessing a pond in the garden. But not only this but many other varieties of our wild water plants, such as Saggitaria, Pontederia, &c., are well worthy a place and careful attention if the requisites for their cultivation are at hand.

We have thus mentioned a few of the common native plants, which, if cultivated, would be ornaments to our gardens. Hundreds of others, none less beautiful, might be added to the list, and our article would scarce be complete on this branch of the subject did we leave it thus unfinished; we therefore add a list of native plants, which either improve by cultivation, or are in themselves sufficiently showy or curious to merit a place in every garden. All may not be obtainable to every one, but there are none who cannot find close at hand some of the species or varieties:—

Achillia ptarmica.
Hibiscus palustris.
Antirrhinum linaria.
Glycine apios.
Asclepias, *all species*.
Iris versicolor.
" prismatica.
Houstonia cœrulea.
Uvularia grandiflora.
Lilium canadense.
" superbum.
Sabbatia chloroides.
Mitella diphylla.
Thalictrum dioicum.
" corynellum.
Chelone glabra.
Tephrosia Virginica.
Aster, *species*.
Cornus canadensis.
Hydrophyllum Virginicum.
Lysimachia stricta.
" thyrsiflora.
Solanum dulcamara.
Campanula rotundifolia
Gentiana saponaria.
Convallaria, *all species*.
Epilobium angustifolium.
Asarum canadense.
Podophyllum peltatum.
Coptis trifolia.
Hepatica.
Verbena hastata.
Corydalis glauca.
Solidago, *species*.
Lupinus perennis.

We now pass to the second branch of our subject, i. e., the hybridization which, effected between our hardy and more tender species, may produce results of great importance. Most unfortunately, little can be said on this topic, for the reason that but few experiments have been made, and these without satisfactory results. A year ago the writer tried the experiment of fertilizing the blue water lily (Nymphæa cœrulea) with the white native (N. odorata.) The hybridization was easily effected; the seed capsules ripened, and in due time rose to the surface of the water to scatter the seed. The seeds were carefully collected and planted, but as yet have failed to vegetate. The fault was not in the seed, but, probably, sufficient care has not been exercised in planting. In this experiment there was another error; the white native should have been fertilized with the blue, not the blue with the white; for it is best to make the female plant that from which you hope to obtain the desirable qualities. In this case a hardy offspring was sought. This experiment is one which will be repeated, and we trust, with a satisfactory result. Some progress has also been made in crossing our native lilies (L. canadense and L. superbum) with the white Japan varieties.

The field which this subject opens to us is as yet but little explored, and much remains undiscovered to tempt the skill of the gardener, or attract the attention of the amateur.

The same may be said in regard to the next branch of our subject, i. e., the production of double flowers by high cultivation, or from seed. A double flower is one in which, by some accident of cultivation or freak of nature, the stamens have become changed into petals. No flower is by nature double; and all the beautiful flowers of our gardens and greenhouses, which, by their symmetrical double form and their beautiful folds of imbricated leaves, attract the eye and are the pride of the gardener, to the botanist must ever appear as monstrosities. From the definition of a double flower it necessarily follows that no flower of the first Linnæan orders can, under any circumstances, become double, from the simple fact that they have no sufficient number of stamens to be turned into petals. Almost all of our double flowers come from blossoms which in a single state possess a large number of stamens, as the rose, camellia and others, though this rule is not invariable. Again, we obtain our double flowers from seed of single varieties, for no perfectly double flower can produce seed of itself; for even if the pistil be present and perfect there are no stamens to fertilize it.

Double flowers are often produced by high cultivation; the tendency being to render the stamens abortive, and change them to petals; but we can lay down no certain rules for their production; they appear to be accidents or anomalies in the floral world; and while we may, in a measure, render the occurrence of the accident less unlikely, we cannot by any means calculate with certainty on its happening.

On this topic there is but little established as well known, and much may be gained by experiment and observation.

We now come to the fourth branch of our subject, on which we cannot,

in the limits of a single article, say all its importance demands, i. e., the cultivation of the rarer varieties of our wild plants. We do not now approach a new subject, but one often discussed, and perhaps the most satisfactory way of treating it will be to give our own experience on the culture of many of these plants.

Trillium. A most beautiful tribe of plants, of which we have several fine species.

T. cernuum, or Nodding Trillium, will grow in any damp, peaty or loamy soil; it is very common, and only needs transplanting; it is, however, the least showy and attractive species.

T. pictum, or Painted Trillium; a most beautiful species; flower pure white, each petal delicately painted with dark lake; quite rare in the vicinity of Boston. Bigelow describes it as found only on Ascutney mountain, Vermont. Mr. Breçk has gathered it in Lancaster. In the Middle States it is more abundant; and the writer has found it in great plenty in a swamp in Dedham, and has repeatedly exhibited it at the weekly displays of the Society. All attempts to domesticate it have, however, failed; it has been transplanted at every season, but with little success; the bulbs never flowering after the second year, and dwindling away. The finest plants ever in the writer's garden were transplanted by accident, in removing from the swamp a large bush of Clethra alnifolia. They for some time did well, but were finally lost. From this, however, we may deduce, that if the soil were taken from the swamp with the plant, and sufficient shade afforded, the chances of success might be increased.

T. grandiflorum is not met with wild, around Boston, though we have seen fine plants in gardens. It is the most beautiful of the species, and does well in cultivation. It needs a drier soil than T. pictum. The petals are about one to two inches in length, pure white, then changing to a dark rose color.

T. erectum bears a flower of a dark purple color, of an offensive odor, and is found in old woods in the western part of the State. We have seen fine plants in the Cambridge Botanic Garden.

T. sessile is not found at the North. The leaves are beautifully variegated. We have seen a plant in the Botanic Garden.

Viola pedata; a very handsome species; it may be flowered in the border, by removing the sod with the plants, from their native pasture, but we have never been able to flower it well; and the seed does not come up in the garden.

Anemone nemorosa and thalectroides; very pretty, but, being small and delicate, they require careful culture; a little clump is very showy; a shady situation and rich leaf mould suit them well. There is a fine double variety of A. nemorosa.

Rhexia Virginica, a curious and very pretty purplish pink flower, blooming in August. We have never cultivated it, as it grows abundantly in our grass land. It seems to flourish equally well in a very damp and dry soil; well worthy of cultivation. Transplant or raise from seed.

Sarracenea purpurea. We have had good success with this beautiful

native, and have no doubt that it can be cultivated to advantage. As a border flower its curious leaves and blossoms must at once recommend it, and in a greenhouse it is well worthy a place. In selecting the plants for removing choose those growing in the most exposed situations, and in as high land as possible; they will be far more likely to succeed than plants from a sheltered marshy situation. Place the plants thus carefully removed with a portion of the sod, and as much earth as will adhere to the roots in a peaty soil, in a damp sheltered spot in the garden. They will thrive, and only need a little light covering in the winter. For greenhouse culture, transplant as before, but pot in a rich peat. Shade the plants and give them plenty of water; remove to the coolest part of the greenhouse and shade them from the strongest rays of the sun, and there will be little difficulty in obtaining fine plants.

Lobelia cardinalis and syphilitica; two very beautiful varieties. The latter is the blue lobelia of the Middle States, that which grows in such profusion around the falls of Niagara. It is of very easy culture, and may be raised from seed, which it produces abundantly, or transplanted. It does not require a moist soil, though it will flourish in wet meadows. The former is our well-known Cardinal flower; its culture is not difficult; like the variety just mentioned it seeds abundantly and the seed germinates readily. It does well in a moist spot in the garden, and increases greatly in size, a single plant throwing up a dozen spikes of bloom. In a pot it grows and flowers well. Lobelia inflata is hardly worth cultivation.

Corydalis cucullaria, or, as vulgarly called, Dutchman's Breeches, we have never seen in cultivation around Boston. Probably there is only a moderate degree of care necessary to ensure success, but having never experimented with it we cannot speak with certainty. The beauty of the flower will, however, well repay any exertion.

Erythronium Americanum, or Dog-tooth Violet, most singularly and inappropriately named, as it is a true lily, and the smallest variety we have. The root is a delicate bulb, which may be safely removed after the flowering season, and just when the leaves are beginning to die down, which will be about the last of June. To produce any effect a large number of the bulbs should be planted together. Soil, rich loam, a little damp.

We have however noticed that this bulb is impatient of cultivation, and after a few years grows very weak; whether the fault was ours, or the nature of the plant, we cannot as yet decide.

Gentiana crinata, or Fringed Gentian—the most lovely of our autumn blossoms, is cultivated with difficulty; the flower is a perfect picture of beauty. Some doubt appears to exist as to its nature, as it will suddenly spring up in situations where none had been known previously; there is difficulty in saving the seed, for the capsules are subject to the attack of a small maggot, which completely destroys the seed. We have however, seen flourishing in a friend's garden, plants which he had removed in the spring from their native fields.

Bartsia coccinea or Painted Cup—we have never cultivated or seen it in cultivation; a wet, marshy place would be absolutely necessary; to those having this requisite, it is worthy many trials.

Epigæa repens, May flower, Trailing arbutus, Ground laurel—too well known to need description, very impatient of cultivation, and we have never known it to survive long, but in the English catalogues we find it advertised; therefore if the proper care is given, it may be raised. Shade is essential, but the kind of soil a matter of doubt; leaf mould would probably be best suited to its nature, and protection from the winter's sun desirable, but we can give no well conducted experiment.

Cypripedium acaule, parviflorum, spectabile, and arietinum—four very beautiful native species. The first may be cultivated with success, if carefully transplanted; remove from the roots of trees with the decaying vegetable matter around; plant it in a deep bed of decomposed sawdust, tan, and old manure, with a very slight addition of peat, and it will grow and flower finely for at least two years; beyond this time we cannot speak with certainty, for "the peculiar nature of all orchidaceous plants will hardly admit of any decision as to their mode of cultivation," until they have stood the test of several years' experience.

C. parviflora we have seen flourishing in a deep rich loam and shady situation in the Cambridge Botanic Garden. The other two varieties mentioned above are never found in the vicinity of Boston, nor, to our knowledge, in Massachusetts, but their rarity and beauty render them most desirable acquisitions.

A most beautiful family of plants is the Orchis, and one which in England has received great attention; we have no less than ten native species comparatively common, with many other rarer varieties.

O. blephariglottis and ciliaris, rare; psycodes, very common; orbiculata, rare and not ornamental; delitata, more common but inferior; bracteata, rare; fimbriata, a very beautiful and not uncommon species, we have found very abundant in Dedham meadows; grandiflora, a very elegant variety, found in Dedham and Newton, but rare; spectabilis, a fine variety, rare. We have often tried to cultivate these beautiful natives, but with little succcss; the true method would be to treat them as Orchids, (as they indeed are,) and a full description of their culture as such, in England, may be found in "Moore's Orchidaceous Plants," just added to the Society's Library, which treatment would, with some modifications, do for this country.

Aretheusa bulbosa, one of our most elegant native plants. A. ophioglossoides, very beautiful; A. verticillata, rarer and not desirable. All of these may have the same treatment as the Orchis family. We have tried them often with common culture, but with no success. The same remarks apply to our beautiful native Cymbidium (C. pulchellum), a plant of striking elegance. Any report of a successful experiment in the culture of any of the above rare plants would be of great general importance, and would be thankfully received by the writer. (For the description of the species of Orchis I am indebted to Bigelow's Flowers of Boston.) We have but space to notice one more plant before concluding—our native Gerardia—and probably none of our native plants have been so frequently experimented upon, and with so little success.

Gerardia flava, glauca, and pedicularia are all beautiful plants, but the uniform result of any attempt to cultivate them has been a total failure. The plants do well the first season, if transplanted with the turf; are weaker the next year, and soon dwindle away. They live as long as they draw nourishment from the turf, but die when that supply fails them. A reason for this has often been asked, and no satisfactory answer given; but on this subject we have a theory, of which, however, we cannot claim the whole credit, for, on mentioning it to a friend—a botanist of great observation and no little experience—we found the same idea had long since occurred to him. Are not some plants, of which the gerardias are our most familiar examples, partial parasites? do they not derive a portion of their nourishment from the roots of other plants, or from the trees near which they grow? We all know the beech drops (Orobanche Virginica) are pure parasites; and may not the gerardias, though very different in nature, partake, in a slight degree, of their nature?

The suggestion is an important one, and opens a field for investigation. We are thus brought to our last head; i. e., the dissemination of our native plants, as a natural result of a better acquaintance with them.

The progress must be slow, but it must be, for our amateurs cannot longer be blind to the beauty, or insensible to the merit, of our flora. Much might be written, but this article has already far exceeded the bounds of a floral report. It may and must of necessity (where, in such a limited space, more must be omitted than can be said) be imperfect in most of its details, but if it serves to excite the attention of any, or open the eyes of any, to the beauty of our native herbaceous plants, its purpose will be answered.

The Chairman takes great pleasure in being able to present the results of some experiments made in the cultivation of our native plants by Mr. Fearing Burr of Hingham, which have been kindly furnished by tha t gentleman, whose well known enthusiasm and care in the culture of native plants render these experiments most valuable:—

Gerardia flava, G. pedicularis, G. quercifolia—very little success. Made many trials, with like results. While the soil in which the plants were removed offered the peculiar nutriment the plants required, they feebly existed, then died.

Solidago bicolor—succeeds well; spikes of flowers much larger, and the whole plant improved in every respect.

S. lævigata—few plants will reward the cultivator more. Not only are the spikes of flowers increased in size, but the individual flowers become larger and finer.

S. odora—continues to improve; the stool spreading, and the foliage more and more developed.

Arethusa bulbosa—met with no success. The plants grew feeble from year to year, and died.

Cymbidium pulchellum—the same result.

Orchis fimbriata, and other species—a failure. Endured while the earth in which they had been removed remained, and then died.

Viola pedata—made repeated trials, and as frequently failed. I think it will not succeed in cultivated grounds. It would probably do better in sward land.

Cassia chamæcrista—foliage and size of the plant much increased; flowers not so noticeably improved.

Corydalis glauca—much improved; the plant and foliage larger and finer. The flowers exhibited less improvement. The plants seed and vegetate the following spring spontaneously.

Epigæa repens—a failure. Think it, like the Gaultheria procumbens, partially parasitic.

Cypripedium acaule—met with no success.

Myorotis palustris?—will succeed finely if transplanted near running water. Have seen beautiful patches, keeping company with Cardamine Pennsylvanica, blossoming while the water in which they were growing was frozen. Easily naturalized. Seeds were brought from the Fontainebleau forests in France, and planted near a small brook, down which, from year to year, the plants have been making their way, the shallow places of its bed being literally covered with dense masses of almost perennial foliage and bloom.

Viola cucullata—flourishes finely, and foliage much increased in size. May be raised in great perfection in pots, either in the sitting-room or greenhouse.

Aster cordifolius—very much improved; cymes of flowers quadrupled in size. Increases in vigor from year to year.

I have met with no plant from the natural order Compositæ that has not succeeded well when transplanted and cultivated.

PREMIUMS AND GRATUITIES AWARDED FOR FLOWERS.

The Committee would award the following prizes:—

Camellias.—For the best twelve named varieties of cut flowers with foliage, (not awarded,) a prize of . . .	$8 00
For the next best, not awarded, ...	6 00
For the next best, do.	4 00
Heaths.—For the best named varieties in pots, to Wm. Wales,	10 00
For the next best, to James Nugent, . . .	8 00
For the next best, not awarded, ...	6 00
Epacris.—For the best named varieties, in pots, to Jona. French,	5 00
For the next best, to M. Trautman, . . .	3 00
For the next best, not awarded, ...	2 00
Greenhouse Azaleas.—For the best six named varieties, in pots, to Jonathan French, ...	10 00
For the next best, not awarded, ...	8 00
For the next best, do.	6 00
Pelargoniums.—For the best six named varieties, grown in pots, to Thomas G. Whytal, ...	6 00
For the next best, not awarded, ...	4 00
For the next best, do.	2 00
Fuchsias.—For the best six named varieties, in pots, to H. H. Hunnewell, ...	8 00
For the next best, to Wm. Wales, . . .	6 00
For the next best, to Thomas G. Whytal, . . .	4 00
Calceolarias.—For the best six varieties, to F. Winship, .	5 00
For the next best, to Wm. C. Strong, . . .	3 00
For the next best, not awarded, ...	2 00
Cinerarias.—For the best six named varieties, not awarded, .	5 00
For the next best, not awarded, ...	3 00
For the next best, do.	2 00
Greenhouse Plants.—For the best display of not less than twenty, regard to be had to new and rare varieties, and well-grown specimens, of named plants, to Wm. Wales, .	15 00
For the next best, to Wm. C. Strong, . . .	12 00
For the next best, to Thomas G. Whytal, . . .	10 00
For the next best, to James Nugent, . . .	8 00
Cut Flowers.—For the best display, to James Murray, .	6 00
For the next best, to James Nugent, . . .	5 00
For the next best, to F. Winship, ...	4 00
For the next best, to M. Trautman, . . .	3 00
For the next best, to Barnes & Washburn, . .	2 00
Hyacinths.—For the best display, not less than ten named varieties, to Joseph Breck, ...	4 00
For the next best, to R. M. Copeland, . . .	3 00

Pot Plants—regard being had to new and rare varieties—for the best specimen plant, to H. H. Hunnewell,	10 00
For the next best, to Thomas G. Whytal,	8 00
For the next best, to M. P. Wilder,	6 00
For the next best, to Wm. Wales,	4 00
Tulips.—For the best twenty distinct named varieties, to J. Breck,	5 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
Pansies.—For the best twelve distinct varieties, in pots, to Barnes & Washburn,	6 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
Hawthorns.—For the best display of named varieties, not awarded,	3 00
For the next best, not awarded,	2 00
Hardy Azaleas.—For the best display of named varieties, not awarded,	6 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
Shrubby Pæonies.—For the best six named varieties, to M. P. Wilder,	5 00
For the next best, to Joseph Breck,	4 00
For the next best, not awarded,	3 00
Herbaceous Pæonies.—For the best ten named varieties, to M. P. Wilder,	5 00
For the next best, to Hovey & Co.,	4 00
For the next best, not awarded,	3 00
Aquilegias.—For the best display, to Joseph Breck,	5 00
For the next best, to Mrs. Wm. Ashby,	3 00
For the next best, to Barnes & Washburn,	2 00
Pinks.—For the best six distinct named varieties, to Joseph Breck & Son,	5 00
For the next best, to Barnes & Washburn,	3 00
For the next best, not awarded,	2 00
Herbaceous Plants.—For the best display, to J. Breck & Son,	6 00
For the next best. to Barnes & Washburn,	4 00
For the next best, to Antane Apple,	2 00
Hardy June Roses. Class I.	
For the best thirty distinct named varieties, to Hovey & Co.	8 00
For the next best, to J. Breck & Son,	6 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
Class II.	
For the best twenty distinct named varieties, to Hovey & Co.	7 00
For the next best, to James Nugent,	6 00
For the next best, to J. Breck & Son,	4 00
Class III.	
For the best twelve distinct named varieties, to Hovey & Co.	5 00

For the next best, to James Nugent, . . . 3 00
For the next best, to A. Bowditch & Son, . . . 2 00

HARDY CLIMBING ROSES. CLASS IV.

For the best display, not less than four named varieties, not awarded, ... 5 00
For the next best, not less than four, to Charles Copeland, . 4 00
For the next best, not less than four, to James Nugent, . 3 00

HARDY PERPETUAL ROSES. CLASS V.

For the best ten named varieties, to Hovey & Co., . . 5 00
For the next best, to James Nugent, . . . 4 00
For the next best, to Thomas G. Whytal, . . . 3 00

CLASS VI.

For the best twenty-five named varieties, to Gustave Evers, . 7 00
For the next best, to Hovey & Co., . . . 5 00
For the next best, to Antane Apple, . . . 4 00
For the next best, to F. Winship, . . . 2 00

CLASS VII.

For the best fifteen named varieties, to Wm. C. Strong, . 5 00
For the next best, to Thomas G. Whytal, . . . 3 00
For the next best, to J. F. C. Hyde, . . . 2 00

MOSS ROSES. CLASS VIII.

For the best display of named varieties, to Hovey & Co. . 3 00
For the next best, to Joseph Breck, . . . 2 00

BOURBON ROSES. CLASS IX.

Prizes not awarded.

LARGE BOUQUETS OF ROSES. CLASS X.

Prizes not awarded.

TENDER ROSES. CLASS XI.

For the best display of named varieties, not less than ten, to Charles Copeland, ... 5 00
For the next best, to Gustave Evers, . . . 4 00
For the next best, to Hovey & Co., . . . 3 00
For the next best, to A. Bowditch & Son, . . . 2 00

SPIRÆAS.—For the best display, named, not awarded, . . 3 00
For the next best, not awarded, ... 2 00

SUMMER PHLOXES.—For the best ten distinct varieties, named, to Joseph Breck & Son, ... 5 00
For the next best, to Antane Apple, . . . 4 00
For the next best, not awarded, ... 3 00

CARNATIONS AND PICOTEE PINKS.—For the best ten named varieties, to Hovey & Co., ... 5 00
For the next best, to William J. Underwood, . . 4 00
For the next best, to Jonathan French, . . . 3 00

HARDY RHODODENDRONS.—For the best display of the season, of named varieties, to H. H. Hunnewell, . . . 6 00
For the next best, to Hovey & Co., . . . 4 00
For the next best, not awarded, ... 3 00

HOLLYHOCKS.—For the best twelve varieties in spikes, named, to F. Winship, ... 5 00
For the next best, to Antane Apple, . . . 4 00
For the next best, to Barnes & Washburn, . . 2 00
BALSAMS.—For the best eight varieties, in spikes, to Barnes & Washburn, ... 4 00
For the next best, to Thomas G. Whytal, . . . 3 00
For the next best, to Joseph Breck & Son, . . 2 00
PHLOXES.—For the best ten distinct named varieties, to Joseph Breck & Son, ... 5 00
For the next best, to Hovey & Co., . . . 4 00
For the next best, to Thomas G. Whytal, . . . 3 00
PETUNIAS.—For the best collection, to Hovey & Co., . . 4 00
For the next best, not awarded, ... 3 00
For the next best, do., ... 2 00
ANNUALS.—For the best display, to Breck & Son, . . 6 00
For the next best, to Barnes & Washburn, . . 4 00
For the next best, to Antane Apple, . . . 3 00
ANTIRRHINUMS.—For the best display of named varieties, to James Nugent, ... 5 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00
GERMAN ASTERS.—For the best thirty flowers, not less than ten varieties, to Hovey & Co., ... 5 00
For the next best, to J. Breck & Son, . . . 4 00
For the next best, to Barnes & Washburn, . . 3 00
For the next best, to William C. Strong, . . . 2 00
STOCKS.—For the best eighteen spikes, not less than six varieties, to Hovey & Co., ... 5 00
For the next best, to F. Winship, ... 3 00
For the next best, to Antane Apple, . . . 2 00
DAHLIAS.—Class I.—*Premier Prize*—For the best twelve dissimilar named blossoms, not awarded, . . . 8 00
Specimen Bloom—For the best named flower, not awarded, . 2 00
Best yellow, to Antane Apple, ... 1 00
Best variegated, not awarded.
Best maroon, to Barnes & Washburn, . . . 1 00
Best crimson, to C. Copeland, ... 1 00
Best very dark, to Antane Apple, ... 1 00
Best white, to Barnes & Washburn, . . . 1 00
Best edged or tipped, not awarded.
Best scarlet, to C. Copeland, ... 1 00
Best striped, to C. Copeland, ... 1 00
Class II.—For the best twenty-four named dissimilar blooms, to Antane Apple, ... 8 00
For the next best, to Hovey & Co., . . . 5 00

Class III.—For the best eighteen named dissimilar blooms, to James Nugent, ... 6 00
For the next best, to Joseph Breck & Son, . . 4 00
Class IV.—For the best six named dissimilar blooms, to Hovey & Co., ... 5 00
For the next best, to James Nugent, . . . 3 00
Verbenas.—For the best named collection, to Wm. C. Strong, . 4 00
For the next best, to Antane Apple, . . . 3 00
For the next best, to Hovey & Co., . . . 2 00
For the best new seedling, with foliage, the Society's silver medal—none worthy.
Chrysanthemums.—For the best twelve named varieties, in pots, not awarded, ... 6 00
For the next best, not awarded, ... 4 00
For the next best, do., ... 2 00

PRIZES AWARDED AT THE ANNUAL EXHIBITION.

Bouquets.—For the best pair, suitable for the Bradlee Vases, Bradlee plate, to James Nugent, . . . 10 00
For the best pair, suitable for the Jones Vases, to Hovey & Co., 10 00
Parlor Bouquets.—For the best pair, to James Nugent, . 8 00
For the next best, to Edward S. Rand, Jr., . . 7 00
For the next best, to Antane Apple, . . . 6 00
For the next best, to M. Trautman, . . . 5 00
For the next best, to M. P. Wilder, . . . 4 00
For the next best, to Lewis Davenport, . . . 3 00
Mantel Bouquets.—For the best pair, to Wm. E. Carter, . 5 00
For the next best, to Edw. S. Rand, Jr., . . . 3 00
Hand Bouquets.—For the best four, to M. Trautman, . 5 00
For the next best, to Lewis Davenport, . . . 4 00
For the next best, to Edw. S. Rand, Jr., . . . 3 00
Cut Flowers.—For the best display, and best kept during the exhibition, to Hovey & Co., ... 15 00
For the next best, to J. Breck & Son, . . . 12 00
For the next best, to Antane Apple, . . . 10 00
For the next best, to Wm. C. Strong, . . . 8 00
For the next best, to Edw. S. Rand, Jr., . . . 6 00
Achimenes.—For the best six pots, to Hovey & Co., . . 6 00
For the next best, not awarded, ... 4 00
Gloxinias.—For the best six pots, to Hovey & Co., . . 6 00
For the next best, not awarded, ... 4 00
For the best new seedling, Society's silver medal, not awarded.

GRATUITIES.

The Committee would award the following Gratuities for displays during the season, and at the Annual Exhibition:—

To Wm. Wales, for azaleas,	$10 00
" Thomas G. Whytal, for cinerarias,	2 00
" Thomas G. Whytal, for displays,	21 00
" Gustave Evers, for the same,	12 00
" Martin Trautman, for the same,	19 00
" James Nugent, for the same,	11 00
" James Murray, for the same,	5 00
" Jonathan French, for the same,	7 00
" Wm. C. Strong, for the same,	13 00
" Hovey & Co., for the same,	11 00
" Joseph Breck & Son, for the same,	15 00
" Barnes & Washburn, for the same,	3 00
" G. G. Hubbard, for the same,	12 00
" Galvin & Hogan, for the same,	2 00
" A. Bowditch & Son, for the same,	12 00
" J. A. Kenrick, for magnolias,	5 00
" F. Winship, for displays,	10 00
" M. P. Wilder, for the same,	5 00
" J. Waterhouse, for the same,	2 00
" T. W. Walker, for the same,	5 00
" J. W. Foster, for the same,	2 00
" Eben. Wight, for pansies,	2 00
" J. A. Holmes, for Epigæa repens,	1 00
" Miss E. M. Harris, for baskets,	3 00
" Samuel Walker, for tulips,	2 00
" Mrs. Benjamin Brace, for display,	3 00
" Fred. Henry Rand, for Trillium pictum,	1 00
" Miss Russell, for baskets,	2 00
" William E. Carter, for displays,	2 00
" E. A. Story, for the same,	2 00
" Annie C. Kenrick, for baskets,	2 00
" Antane Apple, for displays,	5 00
" Mrs. Richardson, for basket,	1 00
" Charles Copeland, for displays,	5 00
" J. F. C. Hyde, for picotees,	3 00
" William J. Underwood, for displays,	3 00
" Warren Heustis, for the same,	4 00
" S. Blagge, for roses,	1 00
" William H. Spooner, Jr., for asters,	1 00
" Mrs. J. Mann, for cone work,	silver medal.
" Miss Capen, for wax flowers,	bronze medal.
" Mrs. William Kenrick, for wreath,	$4 00
" Mrs. A. Pierce, for floral vase,	3 00

The Committee would also recommend the following gratuities, in publications, for fine displays during the season:—

To Wm. J. Underwood, the Agriculturist, one year.
" M. Trautman, " "
" James Nugent, " "
" William Wales, " "
" Thomas G. Whytal, " "
" James Murray, " "
" F. Winship, " "
" Antane Apple, the Horticulturist, one year.
" Barnes & Washburn, the Working Farmer, one year.
" Joseph Breck & Son, " " "
" Charles Copeland, " " "
" Gustave Evers, " " "

For the Flower Committee,

EDWARD S. RAND, JR., *Chairman.*

REPORT OF THE COMMITTEE ON FRUITS,

For the Year 1858.

BY HON. J. S. CABOT, CHAIRMAN.

The Standing Committee on Fruits submit to the Society the following as their Report for the year 1858:—

The characteristic features of the commencement and earlier part of the year that is now closing were such as to induce the hope and expectation of a favorable season for the fruit culturist. A winter of unusual mildness had been followed by a spring, that, for its two first months, was of an equally favorable character—both free from those violent storms and great alternations from moderate or warm weather to extreme cold, that so often occur at this season. This continuance of propitious weather gave rise to an opinion, not unreasonable, that trees and plants had passed through this season of trial uninjured, and hence arose the apparently well-grounded expectation of a year favorable to the growers of fruit—an expectation not destined to a subsequent full realization.

With the last month of spring commenced an inclement period, that was prolonged, almost without intermission, far into the succeeding—an almost constant succession of rain storms, and cold, dull weather, with frosts of almost killing severity on the 29th and 30th of May. So introduced, the summer that followed was of a similar character: its prevailing features were much dull, cool weather, with a frequent occurrence of rains of almost tropical violence, and the absence of scarcely any hot days. Some of these causes—storms and late frosts, a great quantity of rain, and the absence of heat—or all combined, has exercised a prejudicial influence upon some species of fruits; and the results of this the third year in succession of extreme wet, contrasted with those of the three years of severe drought that immediately preceded, seems to justify the opinion, that, while an excess of either is undesirable, a very dry season is, in this climate, less injurious to most crops than one of excessive rain.

As a compensation for an unpropitious summer, the autumn of the present year has been serene, warm, and fine, far beyond what is usual, with one exception—on the 16th of September—without any severe gales, and without a killing frost until November 11th, so that dahlias and other late flowers were blooming in the gardens down to that period, still fresh and uninjured. Although too late to have much influence upon the later fruits, the effects of the fine weather of the autumn upon other crops has been highly favorable, bringing to maturity and ripening for the harvest some that at one period seemed almost beyond a reasonable hope. As a proof of the peculiar mildness of the fall, it may be mentioned that some plants of the Jenny Lind strawberry were in full bloom on the 7th of November, an event not often noticed.

The last annual exhibition was held in the Hall of the Society. It was

the expectation, when this Hall was built, that it would be sufficient for this purpose, and such was for a few years found to be the case; but latterly, the great increase in the specimens offered rendered a large tent, or the largest hall to be obtained in the city, necessary for the purposes of the annual exhibition.

The limited space afforded by the Hall of the Society required, this year, the adoption of rules for conducting the exhibition different from those that have usually regulated it, and these excluded from the table all specimens of fruit but such as were offered in competition for the prizes—except that contributors were allowed to place there a limited number, especially of such as were new or rare, for exhibition only.

No doubt this exclusion of ordinary specimens, and of indifferent varieties, by which the exhibitions have sometimes been swelled, tend materially to increase the beauty of an exhibition, yet is not free from objections. Many, it is to be presumed, visit the exhibitions of the Society not merely to gratify the eye and to view specimens of superior excellence, but also to study the qualities of the different varieties of fruit, so far as that can be done by a cursory examination, especially of such as are new or rare, to make themselves familiar with their form and appearance. Now to this class it is as important that varieties of poor qualities should be exhibited as those that are superior; for to them it is desirable to know what to avoid, as well as what to seek.

The competition for the prizes offered by the Society has been as active the past year as has been heretofore customary, and the efforts of cultivators has resulted in placing upon the tables specimens of fruit equalling in beauty and quality those of the most favorable seasons.

The raising of forced fruits seems to be more and more becoming an object of interest to cultivators: new competitors present themselves for this class of prizes offered by the Society, and, by the displays in this branch of horticulture, the exhibitions in the earlier part of the year, that would be otherwise devoid of fruit, are rendered attractive. The raising of forced fruits exercises the skill of the horticulturist in one of the highest departments of his profession, and his success here, where all is artificial, becomes a complete triumph over nature—its successful practice requiring not only great skill, but also no small amount of scientific attainment, helps to elevate the character of the art, and for this reason, if no other, is worthy the continued encouragement of the Society.

The forced fruits exhibited have consisted of strawberries, grapes, peaches, cherries, nectarines, &c. Strawberries were shown in considerable quantity on April 3d—a few berries having been placed on the table on March 6th; grapes on April 3d; peaches on May 8th, and cherries and nectarines on the 15th of that month. Grapes and peaches are the forced fruits principally cultivated, and the specimens shown this year of each have been remarkable for size and beauty. One bunch of Cannon Hall Muscat grapes weighed four pounds, eleven of the berries weighing six ounces, and some of the peaches were each ten and five eighths inches in circumference, and weighed ten ounces; indeed, all the different kinds testi-

fied to the scientific attainments and practical skill of their producers. The nectarine is not a favorite fruit, and in quality does not correspond to its appearance, the different varieties, with the exception of the Stanwick, being deficient in sweetness and flavor. The grapes exhibited have consisted of the varieties usually cultivated in the grapehouses in this vicinity—the only novelty now recollected being a round purple grape, with both bunch and berries of a good size, and covered with a fine bloom, called Lady Downes, said to keep well on the vines for four or five months, and on that account to be valuable.

Notwithstanding that the season has seemed unfavorable to some species of fruit, particularly the pear, to others it has appeared propitious. Strawberries, currants, cherries, as well as some others, were in more than usual abundance, and of excellent quality. Such statements and observations as appear appropriate to and required by the occasion, with respect to the different species, will now be offered, taking the different kinds somewhat in their order of ripening.

STRAWBERRIES.

The first strawberries of the season, grown in the open air, were a box of Early Virginias, shown on the 12th of June; the exhibitor stating that he picked ripe berries from his vines on the 6th; and the second was a box of a new seedling, called Page's seedling, exhibited on June 19th. Page's seedling is a handsome strawberry, of good size, conical form, and dark color. It is good flavored, but seemed rather soft in the flesh. As it is so early a variety, it may prove desirable.

The principal exhibition of strawberries for the season was on the 3d of July, on which day there was a magnificent display of this fruit, embracing, with the older sorts, many new or recently introduced varieties. These last, shown in considerable quantity, being of various colors, from nearly white to very dark red, and many of them extra large in size, constituted an exceedingly attractive exhibition. Among the newer varieties may be mentioned Leopold, a very large crimson strawberry, of a coxcomb shape; Marquise La Tour Mauburg, large, dark colored; Trollope's Victoria, also large and fine, but of a color rather too pale; River's seedling Eliza, a large, coxcomb-shaped crimson berry; Blake's Incomparable, a crimson; and Adair, a good sized scarlet variety.

As no opportunity was afforded the Committee to test, in a satisfactory manner, the different varieties, the expression of any opinion with respect to their flavor is purposely withheld, as such, not carefully and deliberately formed, might give an erroneous impression. It may not be amiss, however, to say, that scarcely any of the foreign varieties of the strawberry have continued, for any long period, to give satisfactory results. They seem more tender than the American varieties, more liable to be burnt by the sun in summer, and injured by the cold in winter; besides that, they are all, or nearly all, staminate or perfect in their flowers, and unless more care and attention is paid than can usually be bestowed on their cultivation, they become unproductive. The great size of their berries, their beauty

and flavor, may render some of the foreign varieties desirable for the garden of the amateur, but it is believed that they will in no case be found adapted to the purposes of those who desire to produce this fruit on an extended scale; and while such results as are now had can be obtained from the cultivation of American varieties, it is hardly worth while to resort to foreign sources for any additional supply.

Of the long established and well known favorite sorts of this fruit, no remarks are necessary, unless it be to say that the Jenny Lind, having now been subjected to the test of a somewhat extended and general cultivation, seems to justify the encomiums that were bestowed on it at its first appearance. It was then said that it seemed to be an improvement on the Virginia Scarlet, to which it bore a resemblance, and was well adapted to be a fertilizer to some of the pistillate sorts—a belief now confirmed by subsequent experience.

CHERRIES.

Cherries were exhibited for the first time on July 3d, and for the second time, in considerable variety, on the 10th of that month; many of those then shown being thoroughly ripe, well grown, and fine in appearance. The varieties offered consisted of those already often described and well known, and no statements respecting them are now called for. With the exception of two seedling Mazard varieties, both of which seemed worthy of commendation, no new cherry has this year been brought to the notice of your Committee.

The cultivation of the cherry, if it is not gradually diminishing, certainly does not appear to be extending. It is a delicious fruit, but the ravages of birds and insects, its liability to crack open and immediately decay, when rain occurs at a particular period of its ripening, renders it a very precarious crop; and, what is still worse, the tree seems to be becoming tender, and so liable to disease as sometimes to excite an apprehension that, like the plum, its cultivation may be nearly abandoned. The past season was, more than is usual, favorable to this fruit.

RASPBERRIES.

The only new raspberry placed before your Committee this year was a new White one from Samuel Walker. The berries were of good size, somewhat resembling, in their general appearance, the White Antwerp. Mr. W. stated that it was not hardy. The varieties of the raspberry most generally cultivated in this vicinity continue to be the Knevet's Giant and the Franconia; the Catawissa, and some of the French ever-bearing sorts, being also occasionally grown. The Fastolf, besides that it is more tender, is too soft to bear carriage well, and adheres too closely to the stem. The Hudson River Red Antwerp, the favorite kind in New York, does not appear to have been ever very generally tried here; and, while the varieties now generally cultivated continue to be as satisfactory as at present, it is scarcely worth while to do so.

CURRANTS.

For a long time the Red and White Dutch were the only currants cultivated, and seedlings raised from them, with a view to improvement, did not seem essentially to vary in character from their progenitors. Some years since, May's Victoria was produced, and it was at the time expected that it would prove to be a decided improvement. It has not, however, answered the expectations that were formed, for, except that the bunches are much longer, it does not exhibit any superiority. Subsequently, the Red and White Gondoin and Fertile de Paillau were originated, and these, particularly the two first, proved to be an improvement on the old red and white varieties. Within the last year or two, several new varieties of foreign origin have been introduced, that it now seems probable will, from their superiority, supersede the old sorts. Among such are the Fertile d'Angers, La Caucase, La Versaillaise, Macrocarpa, the Champagne, Hatif de Bertin, and Blanc Transparente, though this last may prove to be the same as the White grape.

Several of these varieties have been exhibited the past year in considerable quantities, and, by their beauty and the great size of both bunches and berries, attracted much attention. Some berries of the Versaillaise were found, on measuring them, to be two inches in circumference. Several of these new currants are fully equal in size to the cherry, a variety too acid for the dessert, and at the same time are sweeter and richer than the old kinds. Among those that may be safely, it is believed, recommended, are the three first named in the above list.

BLACKBERRIES.

The exhibition of blackberries the past year has been confined to the Dorchester and the Lawton, or New Rochelle; indeed, these are the only ones at present known that are worthy of cultivation. The show of this fruit the past year was very fine, and the premiums offered by the Society excited a spirited competition. In size and beauty the berries of both varieties that were exhibited were probably never surpassed. In one instance, thirty-two berries of the Lawton entirely covered the top of the box in which this fruit is usually shown, and twenty five of the berries weighed six and one sixteenth ounces; while twenty-five berries of the Dorchester weighed five and eleven sixteenths ounces. Still larger berries of the Dorchester were, however, subsequently exhibited, though not weighed. Cultivators in this vicinity esteem the Dorchester decidedly superior to the Lawton: it is much sweeter, and therefore more generally acceptable; besides, that while the Dorchester, upon being gathered, retains its deep lustrous black color, the Lawton soon becomes of a deep reddish brown or bronze color, and therefore less saleable. Notwithstanding this, the Lawton, when thoroughly ripe, is, though rather acid, a rich, high flavored berry, and it is thought has hardly had justice done to it. It bears to the Dorchester a relation somewhat similar to that borne by the fruit of the common trailing bramble to the high bush blackberry,—both are valuable varieties, and leave scarcely anything further to be desired in this species of fruit.

PEACHES.

The supply of peaches the past year has been more abundant than usual, and the quality good. The display at some of the Exhibitions of the Society was highly creditable to the contributors. The only new varieties, brought to the notice of the Committee, were two seedlings, one from Mr. Richards of Dedham, shown for the first time, and the other from Mr. Dana of Roxbury; both were late peaches of the yellow fleshed sorts, juicy, sweet, and well flavored. They both seemed to be valuable, not only for their quality, but for being late, after others had generally gone, and therefore worthy of propagation, and of being disseminated.

PLUMS.

Of plums there is little to be said. Indeed, the cultivation of this fruit is now much neglected, and bids fair to be abandoned, unless a remedy shall be found for the disease, the black wart, to which it is so subject; for where it has not been given up, in most instances the trees are so infested with it that they have become unsightly and useless cumberers of the ground. The cause of this excrescence is not fully understood, and, until it is, no remedy can be expected. It is not new, having prevailed, occasionally, at least, and with a greater or less degree of virulence, for half a century or more. For the last few years its ravages have been peculiarly violent. Perhaps, like some diseases that afflict the human frame, its virulence may hereafter abate.

GRAPES.

During the last few years no fruit, unless it be the pear, has excited so much interest as the grape; and confident expectation has been indulged that from seedlings, now being extensively raised, some new varieties would be produced, that, free from the defects of the native grape, should be of fine quality, hardy, and sufficiently early to attain maturity under ordinary circumstances in the open air in Massachusetts. Although this expectation has not as yet been fully realized, still, this is no cause for discouragement, especially in view of what has already been obtained in the Diana and Delaware, both a near approach to the requirements of cultivators. The great desideratum seems to be a grape of good size, suited to the dessert, that shall perfectly ripen its fruit during our short summer, that which some varieties of those not yet fully tested may prove to be. There are already good grapes, if they could be produced perfectly ripe, as the Isabella, Catawba, &c. Indeed both these sorts, when thoroughly ripened, leave, so far as quality is concerned, but little more to be desired; but it is to be questioned, whether even the first, certainly not the last, ever, unless under the most exceptional circumstances, thoroughly ripens its fruit in the open air in New England. Should this opinion seem rash or ill-founded, let but a comparison be made between these varieties, when grown at the South, or here in a grape-house, perfectly ripe, and the ripest and best specimens that can be obtained grown in the open air, and the inferiority of the latter will be at once manifest. And this same remark, it is believed, is

also applicable to the Concord, a somewhat earlier variety than the Isabella, but which it is thought will prove to be better adapted to a more southern latitude than to this, where it originated. The Hartford Prolific has lately received warm commendations from some sources, and seems to answer this requirement of earliness; ripe grapes, of this sort, grown in Hartford, having been tested this year on the 14th September; but its earliness is its chief recommendation; it is tolerably sweet, but is not wholly free from the peculiar flavor, as well as the hard pulp of the native varieties, and therefore hardly suited to the table. Besides that there is this objection to it, the berries, when ripe, fall from the vine at a slight touch.

Of some of the more recently introduced varieties there has not yet been a sufficient trial here to authorize the formation of any very decided opinion concerning them. High expectations have been formed of some of them; expectations that it is earnestly hoped may be realized. The Rebecca is one that, at the first exhibitions of its fruit, was universally commended, but, from present indications, it is feared that it will be found to be tender, and not suited to this climate, particularly as the appearance of the vine indicates that it is a seedling from some foreign variety. It is, however, too soon to express a decided opinion respecting it, particularly as since its introduction the seasons have been unfavorable. The Logan is another new grape that has been brought prominently before the public, mainly through the agency of Messrs. A. Thompson and G. W. Campbell of Delaware, Ohio. It has not fruited here, but specimens from Ohio, tasted, hardly met the expectations that had been formed from the representations of its quality Under the date of September 16, 1858, Mr. Campbell writes: "This is the second year of bearing with the Logan, and I think you will find it to improve upon acquaintance. It endured last winter, which was peculiarly hard upon vegetation, *uninjured*, although in the same vicinity the Catawba, Isabella, Diana, and Clinton, were killed to the ground. Its habit of growth is like the Catawba, Isabella, and grapes of that class, but its leaf is different and distinct. It is easy of propagation, striking readily from layers, cuttings, or eyes."

Of all the grapes recently introduced, there is none, that for size, beauty, and flavor, is superior to the Union Village, if there is any that equal it, unless one, to be presently noticed, shall hereafter prove an exception. The only misgiving that is felt with respect to this variety is, that it may not be sufficiently early to arrive at perfect maturity when raised in the open air; it is, however, about eight days earlier than the Isabella. This grape has only been fruited in this vicinity by Mr. E. A. Brackett of Winchester, if, indeed, any one here but Mr. Brackett, and those who have received vines from him, have the true variety, as vines received from Ohio, two years since, with every guarantee to their correctness that could be desired, have not proved to be so. This grape has been exhibited by Mr. Brackett for the past four years, and the favorable opinion of its quality entertained by those who tasted of it has been before expressed. It was shown this year on October 2d, and pronounced *very good* by the Committee; in consequence, however, of the mildew, and the unfavorable character

of the season, Mr. Brackett did not consider these specimens a fair criterion of the quality of the variety. The Union-Village was received by Mr. Brackett from Mr. Longworth of Cincinnati, who, it is said, obtained it from a Shaker Community at Union Village, Ohio, whence its name, and where it has been presumed to have originated. With respect to this there may be some doubt; as the original vine cannot now be found there, perhaps it was sent to Mr. Longworth.

With the information upon this subject at present possessed, if called upon to recommend grapes, that, taking all circumstances into the account, may be considered as best adapted to out-door cultivation in Massachusetts, but little hesitation would be felt in naming the Diana and the Delaware. The Diana is too well known to call for any remarks concerning it, and with the Delaware, cultivators are somewhat acquainted as, although of recent introduction here, various opportunities for testing its qualities have been afforded. The Delaware has been received from Delaware, Ohio, but is probably a native of one of the Middle States. It is, although until recently but little known, not a new grape, for if statements of in every way a reliable character can be depended on, the Delaware was, more than thirty years ago, in the possession of Mr. Prevost of New Jersey. Mr. Campbell of Ohio writes that he this year "picked ripe specimens from a fair southern exposure on the 15th of August."

There have been some new Grapes exhibited the past season; among them a new seedling from J. F. Allen. As, through some accident or misunderstanding, this grape was not tried by the Committee, the following description of it from Mr. Allen is given: "A new Seedling grape, hybrid from Isabella and European, early and fine, color black, grown under glass, but not forced. I have vines of it in the open air, and it is as *hardy* as the Isabella." On September 11th, Mr. James Hill exhibited a large purple native grape, called Jenney's Seedling; it was stated that it did not mildew, and was sometime ripe by August 24, but its quality was not such as, in the opinion of the Committee, to entitle it to commendation.

It has been said above, that it was believed that the Union Village had no superior unless with one exception. The exception intended was a new seedling, raised from it by Mr. Brackett; it fruited this year for the first time, with berries larger than those of the Union Village, that were pronounced by those who tasted them to be of superior flavor. It is believed to be a grape of great promise. Information has been received of a new grape, of an amber color, a chance seedling, on Long Island, that the owner, himself every way qualified to judge, believes will take its place as the best of American grapes. As nothing more is known of it, this allusion to it is all that is deemed justifiable.

Although skilful cultivators, like Messrs. Grant and Cutter, and they too probably favored with locations peculiarly adapted to the purpose, have exhibited, the past season, hardy grapes in as good condition as usual, yet the crop may be considered a failure. The mildew has been exceedingly destructive, and the only variety, so far as was noticed, that escaped its attacks was the Clinton. This disease first manifested itself on August 5,

and after that its ravages were rapid and fatal. While, during the last two years, the mildew has been in this country very destructive, in France the vines have, in a great degree, been free from the Oidium supposed to be identical with it. Whether this exemption in the latter country has been owing to the very general and free application of sulphur there practised, or to other causes, is not known; but as this has been considered a remedy for the evil, perhaps the experiment is worth repeating in this country.

At the Annual and subsequent Exhibitions, Isabella grapes, far beyond the usual size, were exhibited, this increase in size having been produced by girdling the vines. The Committee had an opportunity of testing the effects of girdling by a comparison between grapes from a vine so treated and from one that had not been, and, in their opinion, this practice is injurious to the quality of the fruit. Mr. G. B. Cutter, who has practised it, gives it as his opinion, "that it increases the size of the grapes but does not hasten its maturity, and injures the quality." As the berries are increased in size by this process, it may be that it requires a longer period to bring them to equal maturity with those that have not been so treated, and when the season permits, if those that are on girdled vines are permitted to remain ungathered several days longer, they may become equal in quality to those that are borne by vines in their natural condition.

Since the preceding remarks in relation to the grape were written, the following letter has been received, and as it gives the opinions of a most intelligent and skilful cultivator, bearing upon this subject, permission has been obtained to hereunto append it. Upon perusal it will be found to correspond with the views herein before expressed. In making their award of premiums the Committee felt that a preference was to be given, when the quality of the specimens exhibited would justify it, to well-known and established varieties, rather than to those of more recent origin, because the latter not being thoroughly tested, though promising to be superior, it was thought that to act with caution would be the part of wisdom:—

To J. S. Cabot, Chairman of Fruit Committee
of Massachusetts Horticultural Society—

Dear Sir—In reply to your inquiry I hardly need say to you, that my crop of grapes has been almost an entire failure this season; the Delaware and Union Village have alone yielded me a fair return for my labor. The great amount of rain that fell during the months of August and September may serve to remind the cultivator of the importance of a dry, calcareous or sandy soil for the vine. In such a location drought may be overcome by mulching, while in a fat, heavy loam excessive moisture will always prove disastrous to both fruit and vine.

Of the many varieties that I cultivate none gives me so much satisfaction as the Delaware. It ripens from the 1st to the 10th of September, is perfectly hardy, and yields an abundance of most delicious fruit. Considering all its qualities I have no hesitation in placing it at the head of American grapes.

Of the Union Village, I have heretofore spoken. It continues to maintain its good character. I am pleased to find that Dr. Grant, who fruited this vine about the same time as myself, coincides with me in my opinion of it. It is at least a week earlier than the Isabella.

The Rebecca has not proved so hardy as I had hoped. It has winter-killed badly the past two years. I am informed that the original vine has always been covered during the winter. Those who have this variety will do well to lay them down, as the delicious character of the fruit will well pay for any such extra attention.

Some excitement has been created, this season, by the exhibition of fruit grown upon girdled vines. The practice is not new; writers as far back as Pliny speak of it as common among the vine dressers of those times. It has been in use in France since 1790, the object being to prevent blight. The operation is performed on the old wood from six to eight days before blossoming. Girdling vines, when the fruit is about the size of a small pea, will cause the berries to swell a third larger than they otherwise would have done, but does not cause them to ripen any earlier.

The culture of the vine is daily claiming more and more attention, and it is to be hoped that we shall have no more such worthless humbugs as Charter Oak, Globe Seedling, Mammoth Seedling, Northern Muscadine Canadian Chief, Massachusetts White, and, I had almost said, Hartford Prolific; but I am reminded that the Pomological Society have placed it on the list among the "promising," and that too in such company as the Delaware, Union Village and Rebecca. Promising for what? certainly not as a table grape! Downing describes it—Flesh sweet, moderately juicy, with considerable toughness and acidity in its pulp, and with a good deal of native perfume, ripening ten days before the Isabella. He might have added, that the berries drop from the stem, when ripe, with the most careful handling; while the quality of the fruit is greatly inferior to the Concord. Its only merit is its earliness, and in this the Delaware is several days ahead of it.

After several years' experience with all the varieties worth growing, I can with the greatest confidence recommend the Diana and the Delaware for general cultivation; and that for special or garden culture, the Union Village will be found very desirable. Yours truly,

Winchester, Mass., Nov. 13, 1858. E. A. Brackett.

GOOSEBERRIES.

Gooseberries have been exhibited in the usual quantity, of good quality, and in more than the usual variety the past season. A new seedling, from Houghton's seedling, was exhibited by Mr. Benj. C. Mattingly; it was a rather small yellow berry, but sweet, pleasant-flavored and good. The gooseberry is not held in very high estimation in this country, and the climate does not seem well adapted to it.

APPLE.

To the Northern States there is no fruit crop so important as that of the apple. Coextensive in its duration, by some of its varieties, with that of

the year, it is a healthful luxury; enters into consumption as an article of food for both man and animals; is valuable to manufacture into cider, and also enters into the domestic exports of the country as an article of merchandise. Its product, then, becomes a matter of interest. The past year this has been exceedingly variable—in some sections of the country a total failure; in others, as in this vicinity, abundant. At the exhibitions of the Society it has been shown by numerous contributors in great variety and of good quality, some of the varieties being new, or such as had not been before noticed. Among these may be named the Thomas, a sweet apple, somewhat resembling in appearance the Ladies' Sweet, a fine fruit, exhibited perfectly sound as late as April; and a very handsome apple of medium size, shown on the last of May, said to keep until July; it was unnamed, but was thought to be the MacCartney, so called from the name of its grower.

At some of the weekly exhibitions there was a fine display of apples; among them, in October, the following that had not been before noticed: the Boxford, a large yellow apple, nearly covered with stripes and blotches of red, remarkably tender and very pleasant flavor; and the Polliard, probably a local name. This last was more beautiful than the Maiden's Blush, that it resembled in its color, with a very white flesh of a very agreeable subacid flavor. Both these varieties made a very favorable impression.

At the annual exhibition the display of apples was very fine, and there were some varieties of recent origin or of late introduction; as the Ohio Nonpareil, a yellow apple, with red in the sun, of medium size, now, it is supposed, raised for the first time in this vicinity. This apple is held in high estimation in Ohio, but, so far as can be judged from a single trial, not too much so. It has been pronounced by some, whose opinions are usually deemed authority, to be identical with the Cogswell, but it is believed that this opinion has been expressed under some misapprehension with respect to the varieties, and that they are not the same, the two varieties differing, it is said, in both wood and leaf. The John's Sweet, a New Hampshire apple of good size, mostly covered with stripes and blotches of red, a profuse bearer, and the Ledge, now fruited for the first time in this vicinity, were also upon the tables. The Ledge, when it was first exhibited some ten years since from Portsmouth, attracted much observation, and was commended by the then Fruit Committee as promising to be of great value as a late-keeping sweet variety. Grafts then obtained seem to be coming into bearing, and it is to be hoped that it will justify the encomiums that have been bestowed on it.

Smith's Cider was also exhibited for the first time; the specimens were of medium size, of yellow color, with blotches and stripes of red. This is a Pennsylvania apple, and is extensively cultivated in the Middle States and at the West. It may be that it is peculiarly valuable as a cider apple, but if, by that affix, it is intended to designate a fruit valuable to manufacture into cider only, it is certainly a misnomer, for it is a fine table fruit. It is a most abundant bearer and of vigorous growth.

These four last-named varieties were exhibited by Dr. Wight, who has

paid great attention to the cultivation of the apple, and are strongly recommended by him as well worthy the notice of growers of this fruit. Specimens of the Washington, which excited so much interest at its first exhibition three years since, were also shown by him, and also by Messrs. Hubbard, Foster and Evers, and the Northern Spy and Bottle Greening from the garden of the late Capt. Lovett.

PEARS.

Second in importance only to the apple, to which in its duration by the successive ripening of its varieties, and by the different uses to which it is applicable, it bears some resemblance, the pear has sometimes been considered the fruit of Massachusetts, so much has it absorbed the attention of her cultivators. It is a delicious fruit and worthy of the attention it has received. The great interest felt has manifested itself especially by causing the introduction into this vicinity of almost all the varieties of the pear, both from distant parts of our own country as well as from Europe, nearly as soon as such were produced or made known, and there are here collections that, for the number of varieties contained therein, are not surpassed by any others, even if they are equalled. The value of these great collections, such as are those of Col. Wilder and the Messrs. Hovey, cannot be over-estimated. The true qualities of many of the varieties and their adaptation or non-adaptation to cultivation here, can only be ascertained by trial; hence these great collections become, as it were, a school where the qualifications of the different sorts for this purpose are carefully studied, and whence reliable information respecting them are disseminated and taught.

The past season has not been propitious to the pear; its earlier prognostics were favorable, but its subsequent course did not tend to their fulfilment; at least later in the year the injurious effects of some causes became plainly manifested. These untoward effects were exhibited in a diminution of the crop, though this was more striking in some sections of this vicinity than in others, in the country east of Boston more than to the south and west of that city; in causing many trees to shed their leaves prematurely while their fruit was yet immature; and in the cracking and blighting of many more varieties than is usual. Yet, notwithstanding these unfavorable circumstances, in very many instances specimens exhibited have never been surpassed in size and beauty, showing an improvement in cultivation, (in this trenching and underdraining are considered essential elements,) and an increase of knowledge that can overcome the evil consequences of an untoward season.

It would be a pleasant task to specify these instances of superiority, but to do so would be but to enumerate the contributions of the greater part of the exhibitors, and is therefore omitted So great has been this superiority and so nearly equal in quality has been in many cases the specimens exhibited, that in their awards of prizes, especially for autumn and winter pears, the Committee have labored under great embarrassment; and although no premium was awarded that was not richly merited, yet it may be that, from

this circumstance, their attempts in every case to do equal and exact justice may not receive universal approbation.

There have been some new pears and some of recent introduction exhibited the past year; of such a portion at least seem to call for more than this passing notice. Among them the following may be specified:—

A seedling pear, unnamed, from Mr. Van de Venter of New Jersey, in form like the Rostiezer, melting, juicy, and tolerably good, but rather astringent. Shown July 31st.

A pear from Dr. Wight, called Medfield Beauty, supposed to be a seedling, rather small, but tender, sweet and well flavored; said to be earlier than the Madeleine, though not exhibited until Aug. 7.

A seedling pear exhibited by Mr. Burr, on 23d October, above a medium in size, and very handsome; flesh fine grained, melting, juicy, of a rather spirited, subacid flavor—promises to be valuable. Tree grows and bears well.

Mr. Dana exhibited another of his seedlings, a large pyriform pear, not very melting, but of a sweet, pleasant flavor; and Mr. Scott, of Brighton, a russet pear, of medium size, obovate form, that was tender, juicy, and of rather pleasant flavor—a seedling also of his raising.

Alexandrina, a new pear, introduced by Messrs. Hovey, resembling somewhat in form and appearance the Fondante de Noel, a very handsome fruit of medium size, melting, juicy, sweet and pleasant, though of not very decided flavor. Ripe in October.

Madame Eliza, though it has before fruited, was exhibited, it is believed, this year for the first time by Col. Wilder. It is a large pear, of pyriform shape, green color, melting and juicy, with somewhat of the rose flavor.

Neuf Maison, from Mr. Walker. There has been some confusion about this variety, it having, so far as is known, proved heretofore, upon fruiting, to be synonymous with some other. This was a smooth, green pear, of medium size, with a large, straight stem and an open calyx in a shoal basin, presumed to be correct. It was not tasted, but Mr. W. says it is of good quality.

Beurré Antoinette, now first exhibited, is of medium size, with a yellowish green skin, long stem, flesh greenish white, tender, juicy, and of very pleasant flavor. Ripe middle of October.

Bergamotte Gaudry, a very pleasant, melting, juicy fruit, of a slight bergamotte flavor, has some stony concretions about the seeds; of medium size; color yellow, but nearly covered with stripes and blotches of russet.

Doyenné du Comice, not new, but worthy of notice, as it proves to be a very melting, juicy, fine pear, that is believed to be worthy of an extended cultivation. It is peculiarly well adapted to the quince stock.

Beurré Mauxion, of medium size, short stout stem, of a russet color, thin skin, melting, juicy, of a spirited pleasant flavor. Season early in October.

Souvenir d'Esperin is a long pear, above a medium in size, with a thin yellow skin nearly covered with russet; flesh, melting, juicy, of a pleasant subacid flavor, but rather lacked sweetness and richness.

At one of the weekly exhibitions of the Society, that of October 23, a

dish of the Beurré Bachelier was exhibited by Mr. H Curtis. These specimens were large, perfectly fair and smooth, and very handsome, and are thought deserving of mention, because the fruit of this variety is generally knotted or warty, as showing what may be expected of it when in skilful hands or a suitable situation.

De Tongres. As considerable interest has been excited respecting this pear, it may not be amiss to state, as a matter of record, that though not exhibited it has fruited the past year and been seen by some of the Committee. The specimens seen were of good size, but not equal in that respect, or in beauty, to the colored representations of it; they were of a spirited, brisk flavor, somewhat like that of the Beurre d'Aremberg.

By the rules of the Society, premiums can only be awarded to those who are members. Contributions of those who are not, no matter how meritorious, cannot participate therein. It may be, that there have been some that would have been thought worthy of a prize, had such not been precluded by this regulation.

CAN WE GROW PEARS?

A few months since a communication, to which this question served as a heading, appeared in the New York Tribune, from a writer of Buffalo, or vicinity of that city. In this, after giving his views upon this subject, mainly the result of facts in his own experience, the author concludes with the expression of an opinion adverse to the cultivation of this fruit.

To this communication a reply subsequently appeared in the columns of the same journal, from Brooklyn, Long Island, in which, after controverting the statements first presented, and fortifying the position assumed by a detail of facts occurring under his own observation, the writer denies the justice of the conclusions before drawn, and gives his views as directly opposed to those that had been in the first instance expressed.

The question presented relates to a matter of importance, especially if it admits of a doubt, as the presentation of it seems to imply; and as it has already given rise to some discussion, it cannot be kept out of sight. Some consideration of it, then, seems justifiable, if not demanded, on the present occasion, such being intended to refer to this vicinity only.

Facts are stubborn things, and, when well authenticated, cannot be gainsayed; but a difference of opinion may well exist with respect to the inferences to be thereby warranted. In each of the cases above alluded to, no doubt is felt with respect to the correctness of the different statements of facts submitted, but the question may well arise whether it would not have been more just, in each case, to limit the effects of the inferences drawn from these facts to the scenes of their occurrence, rather than to attempt to establish general conclusions thereby as applicable to a country so extensive, and with a soil and climate so varied, as is the United States.

Isolated cases of individual experience, or of a limited number of such, hardly constitute data sufficiently safe to warrant any general conclusions in relation to a subject like that now in hand, for such experiences may

prove to be exceptions. and not the rule. Experiments, to be of much value as constituting a general rule with respect to any culture, should have been numerous, conducted under a great variety of circumstance, and spread over a wide extent of territory.

Instances are on record of great results obtained from a single or a few pear trees, as in a case presented by Mr. William Bacon of Roxbury, who, from a single tree of the Beurré Diel, eighteen years old has sold on an average each year, for the last four years, $60 worth of pears—on one of these years the crop being sixty-eight dozen, that sold for $82; and from a tree of the Doyenné Sieulle, fourteen years old, the same gentleman has sold yearly, for the last three years, $30 worth of fruit on an average. But it would hardly do to adopt this remarkable case as a result that might be generally calculated on. If either with or without the skill of Mr. B., or his favorable situation for the purpose, a great number of the trees of these varieties should be planted, with the expectation of realizing anything like similar results per tree, the attempt would end, it is believed, in most egregious disappointment. Cases could be pointed out where the cultivation of the pear, on an extended scale, has been attended with profitable results, but the circumstances under which this has occurred should be carefully considered before drawing any inference therefrom. So, too, in cases of failure, arising perhaps from improper treatment, neglect, unsuitable soil, or like causes, such should be taken into account before condemning the culture.

If this question—Can we grow pears?—is to be restricted in its interpretation to the literal signification of the terms in which it is conveyed, it admits of but one reply—for that we can grow pears is a fact within the personal knowledge of nearly every man, woman, and child in the Commonwealth, and that such can be produced in great perfection a few visits to the exhibitions of this Society will determine. But taking it, as no doubt was intended, in an enlarged and liberal sense—Can we grow pears successfully, that is, profitably?—and it is believed it admits of an equally reliable, if less positive, affirmative answer.

If the question had been put in somewhat different terms, as, Do we grow pears profitably? truth might require a reply of a different character. It is true that there are no statistics in reference to the cultivation of the pear that can be much depended on, but in the absence of such—guided by such light as is afforded by a personal experience of some duration, and from such information as can be gathered from some of the more intelligent sources, it is believed, that though instances of success can be found, that such must be regarded as exceptional, and that, taking the whole cultivation of the pear as it has been thus far generally pursued in this vicinity in the aggregate, that it has not only been unattended with profit, but has entailed a positive loss.

But, notwithstanding the length of time that has elapsed since the great interest in this cultivation has manifested itself, it may be said that until now it has been in a state of pupilage—for it has only been by patient observation and long years of trial that knowledge has been acquired of the

qualities of the different varieties, and the best modes of growing them. And then, how has this cultivation generally been conducted? In most instances efforts have been directed, not towards producing fine fruit in the greatest perfection and quantity, but in the greatest number of varieties. Cultivators have gone on planting promiscuously varieties of feeble growth and sickly constitution equally with the vigorous and hardy; very many of these proving to be of indifferent or worthless quality, others unproductive, with fruit deficient in size, leaving but a small proportion of such as were fertile and vigorous, and at the same time bearing fruit of good quality and adapted to the market. And this same system has been pursued by growers of every class—by the man with only a small garden plat equally with those of greater pretensions in the extent of their grounds. To all, the sickly and feeble sorts of Europe, if but announced as novelties with some high sounding designation, have been objects of attraction too powerful to be resisted, leading to the neglect of established kinds of known excellence.

The great interest this cultivation has created has also sometimes led to the planting of soil not adapted to the tree, or not properly prepared for the purpose; for every one wishes to grow pears, and as a disposition exists to gratify the inclination at the least cost, sometimes the mistake has been committed of setting out trees that could be got at the lowest price, without reference to quality—a policy that could hardly fail to defeat its own object.

Is it wonderful that a culture so pursued has not been productive of profitable results? would it not have been more remarkable if it had been? In what is here said of course it is not intended to depreciate the importance of collections of a great number of varieties. An opinion of the value of such has already been expressed; but when pursued as a matter of profit, it has been, it is thought, a mistake not to limit the cultivation to varieties of tried and established excellence.

But to return to the question proposed, *Can we grow pears?* To this it is confidently answered, Yes, if conditions essential to success are complied with, and then only. In the first place, when possible, a suitable situation, with a proper exposure, should be selected, one somewhat sheltered from the violent winds that so prevail in this latitude, frequently causing such injurious effects; and secondly, a soil adapted to the object. When the soil is not naturally favorable, it may frequently be made so by artificial means—by cultivation, trenching, and underdraining. A gentleman already named, Mr. Bacon, affords a striking example of what can be effected in this way, who, on a soil certainly not naturally promising,—a marsh, over which the tide occasionally flowed,—has, by his skill and industry, by the addition of soil and other ingredients, and a most thorough system of draining, created one of the most beautiful and productive fruit gardens in the neighborhood of Boston. And similar results have been produced by Mr. Ames and others in the same vicinity, under somewhat similar circumstances. Another requisite of success is the proper cultivation of the trees after planting, the application of manure in sufficient quantity of the right kind, and, above all, as may be inferred from the preceding remarks, it is believed a proper *selection of varieties* is essential to profitable results. A

selection of hardy, vigorous sorts, that shall produce fruit of a quality adapted to the public taste, and such only, with—as it has been found by experience, that yellow or russet pears sell most readily, and at the highest price, in the market—some reference to the color of the fruit.

When these, and such other conditions to success as shall suggest themselves in each case to the intelligent cultivator, are complied with, that pears cannot be raised in Massachusetts, not with any brilliant results, but at a reasonable profit, as much as that afforded by other branches of American horticulture, will not be admitted, until, after a thorough trial, the failure of such attempt shall be so clearly established as to compel its acknowledgment.

In the preceding Report, it has been intended to give the opinions of the Committee on all subjects, when such have been expressed; but as this has only been the case with a few of the topics herein embraced, it must be understood that for the views presented the Chairman is to be considered alone and wholly responsible.

It remains but to give the awards of premiums as made by the Committee, a list of the same being hereunto subjoined:—

PREMIUMS AND GRATUITIES AWARDED DURING THE SEASON.

For the best and most interesting exhibition of Fruits during the season, the Lowell plate, to J. F. Allen, . . . $15 00
For the next best, to Hovey & Co., ... 10 00
For the next best, to H. Vandine, ... 7 00
Apples.—For the best twelve Summer apples, on or before the third Saturday in August, to Hovey & Co., for Early Bough, 6 00
For the next best, to G. B. Cutter, for Williams, . . 4 00
For the best twelve Autumn apples, on or before the first Saturday in December, to Thaddeus Clapp, for Gravenstein, . 6 00
For the next best, to James Eustis, for Gravenstein, . 4 00
For the best twelve Winter apples, on or before the first Saturday in December, to Francis Dana, for Ladies Sweet, . 6 00
For the next best, to J. W. Foster, for Baldwin, . . 4 00
Apricots.—For the best twelve, ... 3 00
For the next best, (not awarded—no competitors,) . . 2 00
Blackberries.—For the best specimens, not less than two boxes, to James Nugent, for Dorchester, ... 5 00
For the next best, to Galen Merriam, for Dorchester, . 4 00
For the next best, to Levi Jennings, for Lawton, . . 3 00
For the next best, to C. E. Grant, for Dorchester, . . 2 00
Cherries.—For the best specimens, not less than two boxes, to W. Bacon, for Black Tartarian, ... 4 00
For the next best, to S. Cadwell, for Black Tartarian, . 3 00
For the next best, to C. E. Grant, for Napoleon Bigarreau, . 2 00

CURRANTS.—For the best specimens, not less than two boxes, to M. P. Wilder, for La Versaillaise, ... 3 00
For the next best, to James Nugent, for White Dutch, . 2 00
FIGS.—For the best twelve specimens, to Gen. J. Newhall, . 3 00
For the next best, to J. F. Allen, ... 2 00
GOOSEBERRIES.—For the best specimens, not less than two boxes, to J. Mitchell, ... 3 00
For the next best, to A. D. Webber, . . . 2 00
GRAPES.—For the best specimens, grown under glass, on or before the third Saturday in July, to Mrs. F. B. Durfee, . 8 00
For the next best, to Nahum Stetson, . . . 6 00
For the next best, to M. H. Simpson, . . . 4 00
For the best specimens, grown under glass, subsequently to the third Saturday in July, to W. P. Perkins, . . . 8 00
For the next best, to J. F. Allen, ... 6 00
For the next best, to C. S. Holbrook, . . . 4 00
For the best specimens of Native grapes, to G. B. Cutter, for Isabella, ... 6 00
For the next best, to C. E. Grant, for Isabella, . . 5 00
For the next best, to E. W. Bull, for Concord, . . 4 00
For the next best, to E. A. Brackett, for Delaware, . . 3 00
For the next best, not awarded, ... 2 00
MELONS.—For the best Muskmelon, grown under glass, on or before the third Saturday in July.
For the best Muskmelon, open culture, on or before the third Saturday in September.
For the best Watermelon, on or before the third Saturday in September. No competition.
NECTARINES.—For the best twelve specimens, to Dr. N. Durfee, for Lewis, ... 3 00
For the next best, to Nahum Stetson, for Lewis, . . 2 00
PEACHES.—For the best specimens, grown under glass, on or beford the third Saturday in July, to Oliver Bennet, . . 5 00
For the next best, to C. S. Holbrook, . . . 3 00
For the best twelve specimens, open culture, to C. E. Grant, for Bergen's Yellow, ... 5 00
For the next best, to F. Dana, for Late Crawford, . . 4 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00
PEARS.—For the best collection, not exhibited before this year, with a written description of the same, not awarded, . 10 00
For the next best, not awarded, ... 6 00
For the best twelve Summer pears, on or before the third Saturday in August, to M. P. Wilder, for Bloodgood, . . 5 00
For the next best, to Hovey & Co., for St. Menin, . . 3 00
For the next best, to W. H. Palmer, for Madeleine, . . 2 00

For the best twelve Autumn pears, on or before the third Saturday in November, to R. W. Ames, for Urbaniste, . 5 00
For the next best, to John Mason, for Bartlett, . . 3 00
For the next best, to C. E. Grant, for Beurré Bosc, . . 2 00
For the best twelve Winter pears, on or before the first Saturday in December, to A. J. Dean, for Easter Beurré, . 6 00
For the next best, to R. W. Ames, for Easter Beurré, . 5 00
For the next best, to William Bacon, for Beurré Diel, . 4 00
For the next best, to H. Vandine, for Winter Nelis, . . 3 00
PLUMS.—For the best specimens, not less than two boxes, to Henry Vandine, ... 4 00
For the next best, to Thomas Hastings, . . . 3 00
For the next best, to C. E. Grant, ... 2 00
QUINCES.—For the best twelve specimens, to J. A. Stetson, . 3 00
For the next best, to Francis Dana, ... 2 00
RASPBERRIES.—For the best specimens, not less than two boxes, to W. R. Austin, for Knevett's Giant, . . . 4 00
For the next best, to W. H. Barnes, for the same, . . 3 00
For the next best, to J. W. Foster, for the same, . . 2 00
STRAWBERRIES.—For the best specimens, not less than two boxes, to Hovey & Co., for Boston Pine, ... 5 00
For the next best, to W. H. Barnes, for Brighton Pine, . 4 00
For the next best, to C. Copeland, for Jenny Lind, . . 3 00
For the next best, to J. Stone, for Hovey Seedling, . . 2 00

GRATUITIES.

To H. Hunnewell, for strawberries, the Society's silver medal.

The Magazine of Horticulture for the year 1859, to the undernamed:—C. Kingsley, for strawberries; C. Heard, for cherries; N. C. Crosby, for pears: Bowen Harrington, for exhibition during the season; George Nichols, for grapes; E. Brown, for apples and pears; George Wilson, for cherry currants; Wm. Wales, for grapes; S. Blagge, for grapes; J. B. Loomis, for Rostiezer pears; J. Haley, for pears; Mrs. Hancock, for pears; E. A. Brackett, for Union Village grapes; W. C. Barton, for pears; J. Munroe, for apples; Jacob Gooding, for pears; J. M. Moore, for pears; G. Gilbert, for pears; S. W. Fowle, for apples; George Kingman, for pears; James Deering, for pears; George A. Goddard, for pears; H. Curtis, for B. Bachelier pears; Henry Vandine, for Beurré Clairgeau pears; Eben. Wight, for Smith's Cider apples; W. W. Wheildon, for apples; John C. Whiton, for Diana grapes; D. Beal, Jr., for Diana grapes; and the Society's silver medal to Oliver Bennet for the Lady Downe's grape.

PRIZES AWARDED AT THE ANNUAL EXHIBITION.

APPLES.—For the best ten varieties, twelve specimens each, to Thaddeus Clapp, the Lyman Plate, . . . $20 00
For the next best, to James A. Stetson, . . . 15 00
For the next best, to Messrs. Burr, . . . 12 00
For the best eight varieties, twelve specimens each, to John Gordon, ... 15 00
For the next best, to J. W. Foster, . . . 12 00
For the next best, to J. Lovett, 2d, . . . 8 00
For the best five varieties, twelve specimens each, to G. G. Hubbard, the Society's Plate, ... 10 00
For the next best, to Gustav Evers, . . . 8 00
For the next best, no award, ... 6 00
For the next best, do., ... 4 00
For the best three varieties, twelve specimens each, to Eben. Wight, ... 8 00
For the next best, not awarded, ... 5 00
For the next best, do., ... 3 00
For the best dish, twelve specimens, one variety, to Thaddeus Clapp, ... 5 00
For the next best, to N. H. White, . . . 4 00
For the next best, to G. Evers, ... 3 00
For the next best, to Samuel Walker, . . . 2 00
PEARS.—For the best ten varieties, twelve specimens each, to M. P. Wilder, the Lyman Plate, . . . 20 00
For the next best, to John Gordon, . . . 15 00
For the next best, to Hovey & Co., . . . 12 00
For the best eight varieties, twelve specimens each, to W. R. Austin, ... 15 00
For the next best, to Henry Vandine, . . . 12 00
For the next best, to P. R. L. Stone, . . . 8 00
For the best five varieties, twelve specimens each, to J. H. Chadwick, the Society's Plate, ... 10 00
For the next best, to Nathaniel White, . . . 8 00
For the next best, to Thaddeus Clapp, . . . 6 00
For the next best, no competitor, not awarded, . . 4 00
For the best three varieties, twelve specimens each, to Jacob Eaton, ... 8 00
For the next best, to Jesse Haley, . . . 5 00
For the next best, no competitor, and no award, . . 3 00
For the best dish, twelve specimens, one variety, to Jacob Eaton, 5 00
For the next best, to W. R. Austin, . . . 4 00
For the next best, to John Gordon, . . . 3 00
For the next best, to R. W. Ames, . . . 2 00

PEACHES.—For the best collection, of not more than four varieties, to Thaddeus Clapp, ... 5 00
For the next best, to Francis Dana, . . . 4 00
For the next best, no competitors, not awarded, . . 3 00
For the next best, do. do., . . 2 00
PLUMS.—For the best collection, not more than four varieties, to H. Vandine, ... 5 00
For the next best, to William Bacon, . . . 4 00
For the next best, no competitors, not awarded, . . 3 00
For the next best, do. do., . . 2 00
GRAPES, FOREIGN.—For the best five varieties, two bunches each, to Mrs. F. B. Durfee, ... 10 00
For the next best, to Joseph Breck, . . . 8 00
For the next best, no awards, ... 6 00
For the next best, do., ... 4 00
For the best two varieties, two bunches each, no award, . 5 00
For the next best, to B. D. Emerson, . . . 4 00
For the next best, no award, ... 3 00
For the next best, do., ... 2 00
For the best collection, not less than six varieties, to H. S. Mansfield, ... 10 00
For the next best, no award, ... 8 00
For the next best, to C. S. Holbrook, . . . 6 00
For the next best, no award, ... 4 00
GRAPES, NATIVES.—For best specimens, to C. E. Grant, . 5 00
For the next best, to G. B. Cutter, . . . 4 00
For the next best, no award, ... 3 00
For the next best, do., ... 2 00

GRATUITIES.

To William Bacon, for collection of pears, . . . 10 00
To Samuel Walker, for the same, ... 10 00
To Ariel Low, for the same, ... 10 00
To R. W. Ames, for the same, ... 5 00
To J. A. Stetson, for the same, ... 5 00
To W. Brooksbank, for Diana and Rebecca grapes, Society's silver medal.
To C. W. Grant, of Iona Island, for Delaware and Catawba grapes, ... 3 00
To C. T. Austin, of Suffield, Ct., for Hartford Prolific grapes, 3 00

REPORT OF THE COMMITTEE ON VEGETABLES,

For the Year 1858.

BY DANIEL T. CURTIS, CHAIRMAN.

The Committee on Vegetables, on presenting their annual report, are somewhat disappointed by the falling off in contributors in this department; all of the appropriation has not been expended, and a balance of sixty-two dollars will be left in the hands of the Treasurer. This, however, should not lead to the supposition that the vegetable department has not received proper and the usual attention. Among the causes which have contributed to this state of things are, the change from weekly to monthly exhibitions, and the cold and frequent rains during the early part of the season, which so delayed their growth that scarcely any vegetable was sufficiently matured and in condition to be exhibited at the time appointed; to the latter cause was chiefly due the deficiency in the vegetable department of the exhibitions. We doubt not, that, if the next season be more favorable, the usual excellency of this department will be equalled, if not excelled.

We mentioned, in last year's report, that specimens of the Chinese Yam had been well grown by Milton Andros, Esq. of Taunton. The past season he has pursued his experiments more accurately, in order to determine more particularly its productiveness and mode of culture, and its value as a root crop in Massachusetts or the United States. This year the specimens—as many witnessed during the exhibition in October—were remarkably clean and straight tubers, from two to three feet in length, the weight of five pounds being often attained by a small tuber. By what has been shown, we cannot think we err in judging, that, from its quality as a vegetable, and its productiveness, it will ere long be found in our markets, and classed with the potato in value.

For the benefit of those who may wish to become more familiar with the subject, we give the details of its cultivation by Mr. Andros, and extracts from the London Gardeners' Chronicle, and comparative analyses showing its relative value:—

Boston, January 14th, 1859.

Dear Sir,—I inclose to you some observations upon the culture of the Dioscorea batatas, or Chinese yam, and regret that I cannot give more information upon the subject—my experiments thus far having been almost entirely confined to the discovery of the soil best adapted to their cultivation.

Upon the question of soil, the result of my experiments has been that a moderately rich and light top soil, with a deep sandy subsoil, is, of all others, the best adapted to their successful cultivation. The strong feeding roots of the plant do not extend above six inches below the surface, striking off horizontally from the neck of the tuber, so that the soil from which the plant derives its sustenance need not be of a much greater depth; but, as the tuber at this point begins to expand and strikes perpendicularly into

the earth, it is, I think, imperatively necessary that the subsoil should be light and easily penetrated. I have cultivated them in deep and rich soils, with clay and gravelly subsoils, with but very indifferent success—the tubers being short and irregular in form. The plant seems capable of withstanding almost any degree of drought; some, which I cultivated last season in very dry sandy soil, showed no symptoms of drooping in the hottest and dryest part of the season, although every other vegetable growing in similar soil drooped for want of water, and some entirely perished.

With regard to the yield, I am not now prepared to give any very exact information; but, from the result of my experiments thus far, I should have no hesitation in saying that in soil adapted to its cultivation, the yield must exceed twenty thousand pounds to the acre.

The proper time of planting depends somewhat upon how they are propagated—whether from tubers which germinate from the bud at the extremity of the neck, or from small pieces of the tubers which germinate from the eyes, like the common potato. The bud will germinate almost immediately after planting, and will break from the ground in from eight to ten days; while the eye, planted two inches deep, requires for its germination from two to three weeks, according to the temperature. While the tuber, if suffered to remain in the earth, will withstand a very low temperature, the foliage is quite susceptible to the effects of frost, and therefore the planting should not be made until danger from this source is at an end.

If germination takes place by the first of June, I think it will be sufficiently early for the tuber to arrive at perfection, which, in this latitude, will be, I think, about the first of November.

The coming season I intend to make further and more extensive experiments, with a view not only to the soil best adapted to its cultivation, but with reference to the value of this production as a crop.

Very respectfully, your obedient servant,

MILTON ANDROS.

DANIEL T. CURTIS, Esq., Chairman, &c.

The following is from the London Gardeners' Chronicle:—

"THE CHINESE YAM.—I have grown this successfully for the last three years, and I coincide with the opinion you expressed in a recent number, that the plant may be improved, and its utility extended by cultivation. The first year that I obtained the yam, as the sets were small and weak, I had them planted in a cucumber frame, where they had for a short time the advantage of a little heat; the result in the autumn was a number of well-developed tubers, the weight of which, in the aggregate, was estimated to be equal to an ordinary crop of early potatoes, grown under similar circumstances. The second year the sets were started in heat, and planted in the open ground in June, with the ridge cucumbers, on a bed made up in the usual way with lawn sweepings, cabbage stumps, and garden rubbish; the bottom heat given by this mass of fermenting matter evidently suited the habits of the yam, the plant grew luxuriantly, and produced some remark-

ably fine tubers; these tubers had penetrated to the very bottom of the trench, which was two feet six inches in length.

I have again this year associated the yam with the ridge cucumbers, and they present a healthy and vigorous appearance; but by far the most promising plants are some which have sprung from the tubers left in the old beds of the year before; these grew so luxuriantly that I was induced to afford them the support of stakes, which they speedily clung to and covered. I am disposed to imagine that I shall have some very large tubers from these plants.

The elegance of the foliage of the yam, and the rapidity of its growth, led me to employ it as an ornamental climbing plant, and last year two sets were planted and their slender shoots trained over a trellised porch. The roots remained undisturbed during the winter, and this year the plants made a more vigorous growth, covering the same trellis, which is eight feet high and as many wide, with a profusion of graceful foliage. Within the last month the yam has blossomed abundantly, and in the exceeding sweetness of its tiny, unattractive racemes of flowers, it has revealed a quality which I have not seen noticed, but which will make it worthy of association with the more elegant and ornamental objects of the gardener's care.

I had nearly omitted to state that the plants left in the old ridge cucumber trench have also blossomed this season, but under a crowd of foliage the bloom has been in a measure obscured and destroyed; the beauty of the plant is best displayed when trained over an open trellis."

The following is the analysis of the Chinese yam (*Dioscorea batatas*) made by Fremy in 1854, of specimens cultivated at the Garden of Plants, Paris, France:—

Water,	79.3
Solids,	20.7
	100.0

The solids contain—

Starch,	16.
Cellulose,	1.
Albuminous matter,	1.5
Fatty bodies, sugar, and soluble principles,	1.1
Mineral salts,	1.1
	20.7

The following is the analysis of the common potato, by Payen:—

Water,	74.
Starch,	20.
Nitrogenized substances,	1.60
Fatty matters,	.11
Sugary matters,	1.09
Cellulose,	1.64
Salts,	1.56
	100.00

The Sweet potato, as analyzed by Payen, gives the following results:—

Water,	67.50
Solids,	32.50
	100.00
The solids contain—	
Starch,	16.05
Sugar,	10.20
Fatty and nitrogenized matters,	1.80
Cellulose, &c.,	1.55
Salts,	2.90
	32.50

From these comparative analyses, it appears that the yam is about five per cent. more watery than the common potato, and about twelve per cent. more watery than the sweet potato; or, in other words, contains less solid matter in the above proportions. Of the solid matters, it contains four per cent. less starch than the common potato, and about as much as the sweet potato; the cellulose, or fibrous woody structure, is about the same in all three, but somewhat the least in the yam; the nitrogenized and fatty matters are also nearly the same in all; the sugar is about the same in the first two, but one tenth of the amount in the sweet potato; the yam contains less mineral salts than the other two. It may be said, therefore, that the yam is somewhat less nutritious than the potato; but that it is more desirable as food for the invalid and convalescent, as, from its less amount of woody fibre and mineral salts, it must prove more easily digestible and less irritating to a delicate or diseased stomach. It would seem, therefore, to merit the attention of the sick, as it contains sufficient alimentary material, with remarkable absence, when properly cooked, of all irritating and indigestible matter.

The Chinese yam, Dr. Lindley says, has proved extremely valuable in England, and its culture will extend. It is said that the female plant has been received in France, and hopes are entertained of improvement from seedlings.

At the Annual Exhibition, no doubt the small space of the store of the Messrs. Bowditch (under the Hall) prevented many from making contributions, naturally unwilling that their specimens, cultivated with great care and expense, should of necessity be so crowded that they could not, unless by chance, attract attention.

Those who did contribute to maintain the reputation of the Society in the vegetable department, could not but feel satisfied with the excellence of the specimens presented, when it is recollected that the season had not as far as usual matured vegetation. The varieties were numerous, and of excellent quality.

The varieties of beans exhibited by the Messrs. Burr may be called the great feature of interest in the vegetable exhibition. They had been collected from various parts of the United States and Europe, and

especially France—such as are in general cultivation—in order to more fully determine their relative value, as well as their various synonyms. The raising of sixty or more varieties is no small task to accomplish in a short season—noting each variety, and its time of maturing, in order that, after a farther trial of a season, there may be given to the Society and the public the relative results. The specimens were put upon the tables in the neatest and most artistic manner, and labeled in the most correct and legible way possible.

The Hubbard squash was somewhat extensively noticed in our last report as among the best winter varieties; and, whatever may have been its origin, we still feel that our obligations are due to Mr. Gregory for taking up the subject, and using every effort in his power to bring before the public this fine squash for winter use. As a successor after the Marrows have passed their prime, it is like having winter pears and apples after the earlier sorts have disappeared. As far as the culture of this variety has been extended, and its quality known, it has ranked No. 1, if the soil and culture have been such as the family require—light, warm, gravelly loam; for cold, moist soils will not give fine-flavored or long-keeping squashes of any variety.

In California, from seed distributed there last season, we learn that it succeeded well, and was very much liked for quality and productiveness. On referring to the contributions at the annual exhibition, we see that it had become popular, as in nearly every collection it was represented, though not matured.

PREMIUMS AND GRATUITIES AWARDED AT THE WEEKLY EXHIBITIONS.

Asparagus.—For the best four bunches, to J. B. Moore,	$3 00
For the next best, to George Everett,	2 00
Beets.—For the best long blood, to J. Nugent,	4 00
For the best summer, to Josiah Crosby,	4 00
For the next best, to Bowen Harrington,	3 00
Beans.—For the best large Lima, to Bowen Harrington,	3 00
For the next best, to George Leland,	2 00
For the earliest shelled, to James Nugent,	3 00
Cabbages.—For the best early, to Josiah Crosby,	3 00
Cauliflowers.—For the best three, to Geo. R. Sampson,	5 00
Celery.—For the best six roots, to Bowen Harrington,	3 00
For the next best, to Josiah Crosby,	2 00
Corn.—For the best twelve ears, to Josiah Crosby,	3 00
For the next best, to A. D. Webber,	2 00
Cucumbers.—For the best under glass, to G. Evers,	5 00
For the best open culture, to Bowen Harrington,	3 00
Egg Plants.—For the best three, to Jonathan French,	3 00
For the next best, to T. W. Walker,	2 00
Lettuce.—For the best six heads, to J. Stone & Son,	3 00
For the next best, to T. Smallwood,	2 00

ONIONS.—For the best three bunches, to Josiah Crosby, . . 2 00
RHUBARB.—For the best twelve stalks, to J. B. Moore, . . 3 00
For the next best, to Galen Merriam, . . . 2 00
SQUASHES.—For the best late, James J. H. Gregory was entitled to the first prize for "Hubbard," but as he was not a member of the Society it was referred, and a gratuity awarded for several contributions during the year of this esteemed winter variety.
For the next best, to Bowen Harrington, for Canada Crookneck, ... 2 00

GRATUITIES FOR EARLY OR FORCED VARIETIES PREVIOUS TO THE OPENING OF THE HALL.

To. C. S. Holbrook, for Olive radishes and varieties of frame cucumbers, ... 4 00
To Jonathan French, for string beans and tomatoes, . . 3 00
To Thomas Page, for rhubarb, ... 1 00
To J. W. Foster, for Long Scarlet radishes, . . . 2 00
To Josiah Crosby, for fine lettuce, ... 2 00
To Nahum Stetson, for tomatoes, ... 2 00
To A. Hatch, for asparagus, ... 2 00
To G. Evers, for frame cucumbers, ... 2 00
To James Nugent, for asparagus, ... 1 00
To J. B. Moore, for asparagus, ... 2 00

GRATUITIES FOR EXHIBITIONS DURING THE SEASON.

To James J. H. Gregory, for Hubbard squashes, . . . 5 00
To T. W. Walker, for superior Sea kale, . . . 3 00
To E. M. Richards, for Cocoa squashes, ... 1 00
To M. P. Wilder, for Wilder squashes, ... 1 00
To Hovey & Co., for Hawks' Champagne rhubarb (new), . 2 00
To Barnes & Washburn, for Prince's Imperial rhubarb (new), . 2 00
To James Nugent, for varieties, ... 3 00
To G. G. Hubbard, for " 3 00
To J. B. Moore, for " 3 00
To Bowen Harrington, for " 4 00
To J. W. Foster, for " 3 00
To G. R. Sampson, for " 3 00
To Jonas Gammell, for " 3 00
To T. Smallwood, for " 3 00
To Francis Marsh, for " 2 00
To A. B. Atherton, for Davis Seedling potatoes, . . . 2 00

SPECIAL GRATUITIES.

To Milton Andros, for superior grown Chinese yams, silver medal.
To Messrs. Burr, for collection of beans exhibited at the annual exhibition, silver medal and 5 00

PREMIUMS AND GRATUITIES AWARDED AT THE ANNUAL EXHIBITION.

For the best display and greatest variety of vegetables, to S. A. Merrill, ... 15 00
For the next best, to J. Stone & Son, . . . 10 00
For the next best, to G. G. Hubbard, . . . 8 00
For the next best, to G. R. Sampson, . . . 6 00
For the next best, to I. P. Rand, ... 5 00
Cauliflowers.—For the best three heads, to Augustus Parker, . 4 00
For the next best, to S. A. Merrill, ... 3 00
For the next best, to G. R. Sampson, . . . 1 00
Cabbages.—For the best three Drumhead, to S. A. Merrill, . 4 00
For the next best, to Augustus Parker, . . . 3 00
For the next best, to G. R. Sampson, . . . 1 00
Muskmelons.—For the best three Christiana or Green Flesh, to John Gordon, for Green Flesh, ... 3 00
For the next best, to G. R. Sampson, for Christiana, . 2 00
For the next best, to Lewis Davenport, for Green Flesh, . 1 00
Mammoth Squash.—For the best, to S. A. Merrill, silver medal.
For the next best, to G. R. Sampson, . . . 3 00
Pumpkin.—For the best, to S. A. Merrill, silver medal.
For the next best, to J. Stone & Son, . . . 3 00

GRATUITIES.

To A. Bowditch & Son, for superior collection, . . . 5 00
To Bowen Harrington, for collection, ... 3 00
To W. C. Strong, for squashes, ... 1 00
To Messrs. Burr, for Burr's corn, ... 1 00
To William Bacon, for collection of gourds, . . . 1 00
To Lewis Davenport, for " " . . . 1 00
To J. Nugent, for fine tomatoes, ... 1 00
To T. W. Walker, for fine egg plants, ... 1 00
To F. Dana, for Gillyflower potatoes, ... 1 00
To Oakman & Elridge, for Turnip Blood beets, . . . 1 00
Publications to the amount of $2 each (selection left to themselves) were awarded to A. D. Webber, George A. Nichols, James J. H. Gregory, Josiah Stickney, Augustus Parker, and Charles French.

REPORT OF THE COMMITTEE ON THE LIBRARY

For the Year 1858.

BY CHARLES M. HOVEY, CHAIRMAN.

The Committee on the Library beg leave to submit their Annual Report:—

Several valuable publications have been added to the Library the past year, the most important of which is Lambert's Pinus, now rare and scarce; and as it is a work upon a subject now attracting the attention of the public, it is deemed a great acquisition.

The serial works taken by the Society, together with the cost of binding the same, amount to about fifty dollars. ($50.)

Quite a number of new and interesting works will be received in the course of a month or so, and will, your Committee believe, be highly useful to the members, and add to the interest of this, which should be a most interesting department of the Society.

These volumes, with the cost of the first work before named, will nearly use up the appropriation made for the Library for 1858; and, with a desire to possess everything that is instructive and useful, your Committee would ask for the same appropriation as heretofore, viz., one hundred and fifty dollars ($150).

REPORT OF THE COMMITTEE OF ARRANGEMENTS

For the 30th Annual Exhibition.

BY F. LYMAN WINSHIP, CHAIRMAN.

The Annual Exhibition was held in the Society's Hall, September 21st, 22d, 23d, and 24th. For the merits of the Exhibition, reference is made to the Reports of the several Committees on Fruits, Flowers, and Vegetables.

The account of Receipts and Disbursements is as follows:—

Total amount of Disbursements, ...		$973 97
Amount received from sale of tickets, .	$308 50	
Balance paid by W. R. Austin, Treasurer,	665 47	
		$973 97

REPORT OF THE COMMITTEE ON FINANCE.

BY SAMUEL WALKER.

BOSTON, January 1, 1859.

The Finance Committee have examined the Treasurer's account for the past year, and respectfully submit the following Report:—

RECEIPTS FOR 1858.

By Balance from last year,		$397 12
" Dividends and interest,		1,024 00
" Rent from Store,	1,200 00	
" " " Hall,	697 50	
" " " New purchase,	1,050 00	
		2,947 50
" Receipts from Mount Auburn,		4,799 67
" " " Annual Exhibition,		308 50
" " " Monthly Exhibitions,		155 85
" Assessments collected,		700 00
" Half taxes returned, and miscellaneous receipts,		224 00
		10,556 64
" Cash from Tremont Bank for Treasurer's note, dated April 21, 1858, payable in 3 months (being a renewal),		984 50
		$11,541 14

PAYMENTS FOR 1858.

To cash paid for Taxes, interest, and insurance,	$657 80
" " Premiums and gratuities,	2,505 00
" " Salaries,	500 00
" " Printing, binding, and advertising,	235 87
" " Repairs, mechanics' and miscellaneous bills,	1,533 90
" " Expenses of Annual Exhibition,	973 97
" " Treasurer's note, dated and discounted Dec. 21, at 4 months,	1,000 00
" " Josiah Bradlee, in full for mortgage note and interest,	3,027 50
" " Treasurer's note, dated and discounted April 21, 1858, at 3 months (being a renewal),	1,000 00
To cash in the treasury,	107 10
	$11,541 14

PROPERTY OF THE SOCIETY.

Original and new purchase,	$48,000 00
Permanent Fund,	4,000 00
Lyman Fund,	10,000 00
Invested as follows:—	
53 shares Boston and Worcester Railroad stock;	
6 shares Boston and Maine Railroad stock;	
$4,500 in Bonds Connecticut and Pasumpsic River Railroad.	
20 shares Portland, Saco, and Portsmouth Railroad,	2,000 00
10 shares Boston and Maine Railroad, (cost)	720 00
Library, furniture, and glass,	4,000 00
	$68,720 00

The Society has no permanent debt, except that recently contracted with the Trustees of Mount Auburn.

IMPROVEMENT AND PRESERVATION OF CIDER.

By E. N. HORSFORD, Prof. Hort. Chemistry.

The accompanying communications, on the Improvement and Preservation of Cider, were considered of so much value, that, at a meeting of the Society, regularly organized, it was ordered, "That the communications by Professor Horsford be published in the Transactions of the Society."

CAMBRIDGE, October 25, 1858.

To the President of the Massachusetts Horticultural Society.

Dear Sir:—I beg to inclose a recipe for improving cider.

The object, to which my efforts have been directed, was to provide a cheap, easily-managed, and perfectly safe agent for arresting fermentation, at any desired stage of its progress.

The fermentation of the sugar of the cider, it is well known, is due to the fermentation of an albuminous substance which the cider holds in suspension or solution.

By fermentation the sugar is first converted into alcohol and carbonic acid. If the albuminous matter be in great excess, as it uniformly is, its fermentation goes forward to convert the alcohol into acetic acid, and the cider becomes sour. If the quantity of sugar be large, a corresponding quantity of alcohol will be produced. When it is not in sufficient quantity it may be added to the cider, and more of the albuminous matter consumed to produce alcohol and carbonic acid, and of course less will remain to convert the alcohol into vinegar.

But if, when the fermentation has been carried forward just far enough to impart to the cider the taste which is most preferred,—when it is sparkling, still sweet, but slightly acid;—if at this stage the albuminous matter be withdrawn, the cider will permanently retain its acceptable flavor.

To accomplish this withdrawal I employ *Sulphite of Lime*—a salt made soluble only by acid, and of course quite inert until acid presents itself to the cider. As soon as fermentation produces acetic acid, this salt yields sulphurous acid, which destroys the ferment. This is essentially the agent employed to prevent fermentation in the wine production of France.

The substance I employ settles at the bottom with the lees, and may be entirely separated from the cider.

The testimony of quite a number of friends, who have for the last three years followed the recipe, as well as the experiments I have myself directed, are so emphatic as to the excellence of the result, that I feel justified in submitting to the attention of the Horticultural Society this method of improving cider.

I am, very respectfully,

Your obedient servant,

E. N. HORSFORD,

Prof. of Hor. Chem. to the Mass. Hor. Soc.

Recipe for Improving Cider:—Let the new cider from sour apples (sound and selected fruit is to be preferred) ferment from one week to three weeks, as the weather is warm or cool. When it has attained to lively fermentation, add to each gallon, according to its acidity, from half a pound to two pounds of white crushed sugar, and let the whole ferment until it possesses precisely the taste which it is desired should be permanent.

In this condition pour out a quart of the cider and add for each gallon, one quarter of an ounce of sulphite of lime, known as an article of manufacture under the name of *anti-chloride of lime.* Stir the powder and cider until intimately mixed, and return the emulsion to the fermenting liquid. Agitate briskly and thoroughly for a few moments, and then let the cider settle. The fermentation will cease at once.

When, after a few days, the cider has become clear, draw off and bottle carefully, or remove the sediment and return to the original vessel. If loosely corked, or kept in a barrel on draught, it will retain its taste as a still cider. If preserved in bottles carefully corked, which is better, it will become a sparkling cider, and may be kept indefinitely long.

To the President of the Massachusetts Horticultural Society—

The following question has, within the last few days, been repeatedly addressed to the undersigned:—

"May not the sugar prescribed in the recipe for improving cider, published by the Massachusetts Horticultural Society, be omitted, and the sulphite of lime added directly to the new cider?"

The reply may seem somewhat circumstantial, but it will avoid unnecessary details, and be as brief as the question permits.

The juice of the apple may be regarded as water containing grape sugar in solution, and albuminous substances in solution and suspension. The other ingredients, including the sources of the peculiar taste and bouquet, need not, for the purposes of this note, be taken into account.

Simple grape sugar dissolved in water does not ferment. Albuminous matters of fruit, on the contrary, dissolved or suspended in water, ferment spontaneously. But if grape sugar be dissolved in water containing albuminous matter, the sugar will ferment from contact with the fermenting albuminous matters. Cane sugar, under like circumstances, becomes first grape sugar, and then ferments. Starch experiences a like change. The first result of fermentation of the grape sugar is alcohol and carbonic acid. The second result is acetic acid, and requires exposure to the air.

There are, in the apple, three conceivable cases of relation of albuminous matter to sugar. First, when there is just sufficient albuminous matter to convert by fermentation all the sugar into alcohol and carbonic acid; second, where there is excess of albuminous matter; third, where there is excess of sugar.

The *first* case would yield, after the fermentation was over, simple alcohol. The *second* would yield alcohol and acetic acid—the latter to the exclusion of the former in some proportion to the excess of albuminous matter. The *third* would yield a mixture of sugar and alcohol.

The result, in the first case, would be a solution of alcohol with somewhat of the taste and flavor of the apple; that in the second would be cider vinegar, and in the third a kind of diluted cider cordial. As access to the air is understood in all the three cases, there would remain only so much carbonic acid as was due to its solubility.

Now we have an agent which will withdraw the albuminous matter (always in excess) from cider at will. If we apply it to the juice of the apple, as it falls from the press, we shall leave behind sweetened water. If we withhold it altogether, we shall have acetic acid and water—or cider vinegar. If we apply it after fermentation has been some time in progress, without exposure to the air, we shall have a weak solution of alcohol and sugar. If, with exposure to the air, up to the time the agent is applied, we shall have sugar, alcohol, and a little acetic acid. If now, with an invariable excess of albuminous matter, we add more sugar, we shall have more alcohol, with the same measure of acetic acid as before.

It is not unusual to add sugar to the juice of the grape in the production of certain kinds of wine. Here follow the proportions of these ingredients in several well characterized fermented wines. A sample of cider is given for comparison. [Acetic acid is replaced to some extent by tartaric, malic, and other acids.] The alcohol is given in per cents by volume, the sugar in per cents by weight, and the acid in the number of parts by weight, of caustic potassa, required to neutralize 100 parts of the wine:—

Name.	Alcohol.	Sugar.	Acid.
Cider,	5.04	0.00	44
Claret,	9.11	0.00	38.52
Burgundy,	10.13	0.00	38.61
Johannesberg, 1842,	10	0.42	38.52
Hockheim, 1846,	11.05	0.44	37
Marcobrunn, 1822,	12	0.24	40

It will be seen that these fermented wines, aside from their peculiar taste and bouquet, are nearly allied to cider. The wines have more alcohol, and some of them have sugar. The claret and Burgundy in the samples analyzed had no sugar, because it had, by fermentation, as in the case of the cider, been converted into alcohol, and to some extent into acetic acid. To secure the increased quantity of alcohol and sugar, provision is made in the receipt above alluded to; and to guard against excessive fermentation, by which more alcohol than is desirable, or more acetic acid than is acceptable, would be produced, sulphite of lime is employed.

Time is given in the recipe, for the well-known reason that, as a general thing, age improves all beverages in which the proper proportions of ferment and sugar are present. The finer products that are especially acceptable to the palate require a more nicely regulated temperature and generally more care. They are easily destroyed by rapid and excessive fermentation, by too high heat, by the presence of the juices of defective fruit, by unnecessary exposure to the air, and by various other agencies—

to guard against which, altogether, requires a degree of qualification that science without experience will probably never be able to give.

It will be seen from the above that the sugar may be omitted, and the sulphite of lime added directly to the apple juice, as it flows from the press, or at a period a little later when fermentation has improved its taste; but at the best it will produce a beverage inferior to that in which more vinous fermentation is permitted, and extended through a longer period. It will resemble cider that has been boiled to coagulate the albuminous matters, or filtered through sand, to separate them. It will be comparatively insipid.

More sulphite of lime will be required if the sugar be withheld. Fortunately, as the sulphite is rendered soluble only in the presence of acid, an excess will do no harm.

E. N. Horsford,

Prof. Hort. Chemistry to the Mass. Hort. Soc.

Cambridge, November 19, 1858.

THE DISTRIBUTION OF SEEDS BY THE UNITED STATES PATENT OFFICE.

By JOHN LEWIS RUSSELL, Professor of Botany.

The introduction of new varieties of valuable agricultural seeds, or of new kinds of fruits, is a subject demanding the most careful consideration of those interested in the profitable cultivation of the earth. The subject addresses the attention of societies formed for the diffusion of knowledge in agriculture. Agriculture, as an employment or as a profession, is wide and extended in its bearings and relations to mankind. Primarily it is the rudest of occupations, but, invested with the aids of enlightened research, it becomes one of the most recondite. At the present, it is in a transition state, having begun to emerge out of the routine of custom, and starting upon that of experiment. By and by we may look for more satisfactory results. We must wait the good time coming. Yet encouraged by decided gains towards its advancement and progress, press upon the public attention its claims to a higher state than it has yet reached.

The earlier condition of man is savage, then nomadic or pastoral, then barbarous or agricultural, then civilized or elegant and constructive. The chase, the wild fruits and seeds, furnish his earliest food; then his flocks, and their milk and flesh and wool, his raiment and sustenance; then the planting of a few trees, the sowing of a few seeds, the enclosing of some acres for protection from beast and bird around his rude dwelling, make him the Agriculturist; and the barbarous state here exists, though it tends rapidly towards the civilized. Lastly, he builds more commodious dwellings, cares more for his cattle and herds, selects his kinds of grains, with attention to their better qualities; prunes, grafts, cultivates his trees; watches every improvement in their fruits, propagates with assiduity the purest and best sorts, learns how to multiply them to the best advantage, surrounds his private and public edifices with ornamental and beautiful forms of vegetation, and rises to the Horticulturist, and the most ingenious and elegant of occupations pertaining to the cultivation of the earth is his. To this higher end, he calls in to his aid the assistance that science bestows, and natural history and chemistry and kindred subjects now come to his aid and are requisite in his calling.

The origin and rise of agriculture, as such, simply from the barbarous condition of man, naturally tend, without great care, to leave man where his sternest necessities find him, viz., in search of his food and in securing its continuance. To elevate the farmer out of this liability, the establishment of county, state and national agricultural societies is a most felicitous idea and project. There is more need of such an arrangement here than in the pursuit of horticulture, because more intelligence is needed at the starting point to raise a choice fruit, than to raise a bushel of potatoes or an acre of corn. Our Indian tribes were expert in agriculture to the extent

that the seeds they possessed enabled them to go: and the maize and pumpkins and gourds and watermelons and beans then cultivated, when the white man found them here, were the products of a soil long tilled for the same crops. In these wondrous people, the visitant to our shores found the rude fisheries or the barter in furs with foreign vessels concomitant with the agricultural pursuits, and hunting and field culture afforded sustenance for winter, or for seasons when food could not be readily obtained elsewhere. It requires no great amount of learning, or reading, or of original experiment, to simply till the fields, or to cut down the forests for the first crops; and "labor is found to overcome all things" mainly in general farming. Some remnants of this tendency to barbarism yet exist—happily fading away—where the rudest implements of labor and the most improvident care of seeds and of crops show that the old well beaten path of husbandry is the one considered the safest and the best.

Since the attention has been directed to the establishment of agricultural societies, we have seen most rapid and astonishing improvement in all sorts of earth labor. But in proportion as labor is saved by labor-doing machinery, the area of such labor diminishes. Once, and not long since, every farmer's pride was to accumulate money to buy every lot and piece of land adjoining his farm; now he contracts his fences and narrows his domains. His farm henceforth assumes the artistic and civilized aspect, and his barns and outbuildings, his orchards and meadows, are in character with his improved tastes. He learns to respect a tree, not so much as formerly for the cords of wood it contains, as for its shade and beauty and pleasant memories. A thousand dollars' worth of barrelled fruits of the orchard is better to him than the expressed juice from the cider press, collected from trees scattered far and wide over his pastures and lots. Drainage and cultivation do more for an acre of fresh meadow or peaty swamp than the product of five acres would naturally yield. And thus, ere he is aware, he grows out of the most hard working and toiling field husbandman into the cultivator, into the horticulturist as it were, his wider domains being only the vegetable and fruit garden on a grander scale. He is none the less practical, though more appreciative of the value of the right kind of practice; none the less laborious, though more elective and refined. In the vicinity to a good market, he even becomes more of the horticulturist still. And his early crops, requiring the hotbed and the sunny aspects of some favorable site, yield him more on an acre or two than a whole farm formerly could afford.

The agricultural farmer still is liable to a disadvantage, which, to a considerable extent, the horticulturist avoids. Societies for the promotion of horticulture avail themselves of the advantages of science, especially of the application of the natural sciences, to their avocations to a greater extent than do those devoted to the interests of agriculture, or wider field labor. Mechanics, with her wonderful contrivances, remove much of the drudgery and severe toil from the farm; but how little is yet understood of the habits and economy of birds, insects, and seeds, of fruits and trees, of shrubs and flowers, and of the thousand wonders of which the Creator has

so lavishly furnished instances and provisions. I possess tracts and treatises of the most erudite and elegant naturalists, who, the honor of science, are yet honored still more by the attachment of their labors and researches in the fields of horticultural and agricultural pursuits abroad. Where is the agricultural society in this country which recognizes among its officers the botanist, who studies the structure of the subjects of its operations, or the presence and influences of wasting diseases, produced or incident on disease and failure of the crop? Other branches of natural history should occupy their place and sphere, and the library which contains the best treatises on scientific husbandry as pursued abroad, ought to be explained and rendered serviceable by the lecturer at the annual meeting, or at stated periods. Is it not a shame and reproach that we borrow so much from abroad? Making ourselves still children in our avocations, by being indebted to others in other countries where soil and climate and atmosphere and the nature of labor all conspire to make the difference between us and those older countries so wide and distinct. And we reap our reward, in committing the saddest mistakes—nay worse, in making the most stupid of blunders, by confounding facts, and misusing names, and falling into errors in consequence at once ludicrous and fatal.

Then, again, the field husbandman, having a larger area of operations, is tempted to experiment on newly-recommended seeds and fruits, which he finds too often of no value, while the horticulturist leaves to him who has the most acres the care and the pursuit of the experiment. If the same ignorance were suffered in the raising of stock, in breeding horses or crossing sheep, as obtains in raising crops from recommended seeds, how the scorn of the community would be turned upon the unfortunate experimentalists. Several species of moth produce very strong and durable silk, and some other creature beside, but who would rear the destructive larva of the one or the nests of spiders from eggs distributed by some officious and well meaning but ignorant person? The nicest care and discrimination is requisite to determine the character of many species of moulds attacking vegetation; they look very similar, yet they are very diverse, some wholly harmless, others most insidious. Many an unfortunate insect is inhumanly treated or killed because seen in bad company, and there only because it was seeking its food among other insects which were injurious. The birds have had the most eloquent panegyrics bestowed on their kindly labors, but how still in vain, until, as we hope, actual experiment here shall show the surplus of good over evil they can exhibit. All these things, and a myriad more ever occurring, are worth knowing; and as there are those whose tastes and pursuits lead them to investigate and know them, it were the part of sound wisdom to invite them to be counsellors in societies formed for the common good. It cannot be reasonably expected that any or every person shall possess all such knowledge; one may graft much better than I, but I may still be able to tell him the probable why and wherefore some sorts will grow upon a quince stock and some will refuse to be united; and though his knowledge of the modus operandi of making a plant thrive is better than mine, I can assure him, on the first glance, whether he is sowing a weed or a new sort.

The Massachusetts Horticultural Society, with a commendable foresight, in its constitution provided its botanical, zoölogical and chemical professorships. The work of Dr. Harris, on "Insects Injurious to Vegetation," is from the pen of one of its officers; and other papers of a similar character from time to time. In the earlier numbers and volumes of the Massachusetts Agricultural Journal, we find the ingenious and carefully-prepared papers of the observing Professor Peck of Cambridge. What knowledge has been obtained as to the history and habits of several of our most destructive insect foes, has been based upon, and is indebted to, these early observations. Now these were made by personal observations at home, and by personal care. Hence their value; and only home observations, by our own home naturalists or experimentalists, are of much or any value to us. We have a natural history of our own. Our plants, our weeds, our cultivated crops, our insects, our birds, our soils or atmospheres, and our winds, are local and peculiar. Scarcely anything is in common; rocks, peat meadows, sandy plains, loamy soils, waters, and rains and snows are not European or British; but *North American.* Hardly a plant is common to both continents, and even the introduced weeds soon lose their transatlantic character. Thousands of the minutest forms of vegetable life, such as the fungi, many of which are the pest of the farmer and of the horticulturist alike, are exclusively *American*, and many of them are confined to sections only of our country.

While then, in the wide domain of natural history and in the geological features of a country, there is so much that is peculiar and new, it is not strange or singular that seeds and fruits and varieties of vegetables, such as the field roots and crops and grains and grasses, should be liable to the particular contingencies of local conditions. Those who attempt the fruit culture, know the reasonableness of this remark; and I shall therefore employ it for an illustration. Many seasons' trial and variety of soil only, have rewarded by the successful result the patience of long-delayed hopes, in some very estimable pear of European or British culture. It is not too much to anticipate the condition of things, when certain sorts of fruits will cease to be tried in our gardens from previous knowledge of the anticipation of failure, based on actual and certain data. If this is true in the pear, why does not the same reasoning hold in the root crops, or in the varieties of gramineous plants? These observations, however, are not made to deter experiment, for experiment is worth ten times more than any theory. Yet who would care to repeat, (through ignorance though it may be), the folly of sowing the seeds of a boreal climate in a tropical one, whose heat and atmospheric conditions convert its biennial character into the annual growth? It would not be much better than this, to expect that many plants, valuable abroad, would be valued here for the same properties; neglecting the particular conditions of the case. Thus observation the most extensive, and some knowledge of the varied aspects under which the vegetation of different agricultural countries is subject, is essential to guard against expenditures of time and money in the distribution or cultivation of seeds and grains and fruits.

It should be a great object of agricultural societies as well as of horticultural societies to gratuitously distribute, as far as practicable, among its members, all new and really useful articles, and it might be the aim of such societies to be the mediums of National or State bounty. Many a farmer would prize more highly a dozen scions of a new fruit than a volume on foreign agriculture, or a dollar or two as a gratuity, and a paper of choice seeds is more valuable than a silver medal. Much of the mischief which arises from the indiscriminate scattering of seeds and roots around the country, would be thus avoided. There are certain vegetables, for instance, that are so ill suited to our climate that they are grown with the greatest difficulty. Many years ago I was requested by an intelligent and practical farmer to inform him of the name and nature of some strange-looking plants which he had raised from seeds sent him from Washington; he was in doubt whether they were *thistles and dandelions* or no, and he was equally astonished and chagrined to learn that the thistles were artichokes and the dandelions were endive,—the former to be boiled for the table something like a cabbage, and the other to be blanched and eaten as a salad. "What, eat thistle heads," said he, "and devour such a bitter thing, when lettuce is so much better?" Some seeds of the same lot produced *beets*, but they were all tops and had no roots, very ill adapted either for the table or for feeding out. Who does not remember the Tree corn, fitted only for a southern culture, if good for anything? And the Cesarean cabbage or kale, one plant sufficient to keep a cow, and two or three would save barn yard and hay stock? Not long ago, I was favored with the flowers and stem of a Spanish plant, sown with great care as a new spinach, but digestible only in the stomach of the most indigent or the most vagrant of animals. The chufas, or earth almonds, have received considerable censure; I have long been acquainted with them, many years before they were distributed from the Patent Office; and whoever loves to eat peanuts might have a hankering after these little rootlets—in both cases the task is somewhat porcine. Varieties of peas, long known to our farmers and gardeners and laid aside for better varieties, are received by favored individuals as especially excellent and *new* sorts. Grass seeds, fitted only for warmer parts of the country, where the herbage lacks the softness and fineness of our pastures, are useless or worse than useless to us. Along our railroad tracks, straying from old cornfields and rye fields, and blooming late in autumn, is a caryophyllaceous plant, with succulent, needle-shaped leaves, called Spurry,—a worthless, insignificant, introduced weed, yet recommended for cultivation for feeding sheep. Its adaptation to the poor gravel of the rail-track bed may be something in its favor for poor gravelly soils elsewhere on the farm, yet we have better plants than it to sow there, and birch trees and pitch pines would yield a better crop.

The duty of your Committee having for its consideration "the distribution of seeds from the Patent Office," at Washington, leads me naturally into the train of thought now laid before us. The origin of the labors and avocation of this department of the Patent Office is unknown to me. I cannot but feel that the motive was praiseworthy, and the object was in-

tended to be a good one. But towards a country of the magnitude, extent, and ever-increasing area of ours, spreading over such diverse geological strata and bounds, and claiming such different soils and subject to such distinctions of atmospheric conditions, some skill in the geographical distribution of plants should be in the possession and at the service of the person employed in introducing new or supposed to be new varieties of seeds and roots. Correspondence with scientific or industrial societies in distant States with the Patent Office might perhaps obviate many of the otherwise unavoidable difficulties now lying in the way, and save the introduction of species of plants liable to become the most worthless of weeds to the farming interests. It is evident that some better system should obtain somewhere, to render a good design the most available; or, if this is impossible, it would be far better to abolish this particular function of the office, perhaps, than to continue so much waste of time and means, and to so little purpose. We hold it to be the duty of a Society like ours to take the matter into serious consideration, and, if possible, to help in devising a better and more profitable method of rendering available, to its greatest extent, anything that can be of service from abroad, or *from distant parts of our own country*, to our agricultural interests, in its various departments of skill and labor.

At several times I have called the attention of the Essex Institute, in its meetings, to this subject of the Patent Office method of gratuitous distribution of seeds, and have made it the topic of extended remarks. This society, located in Salem, has *its* horticultural department, and has been favored with envoys of seeds through the medium of members of Congress. With the single exception of a small scarlet radish, esteemed by some one who received from the Institute a portion of seed, the lots were valueless. On one occasion considerable parcels of well known and quite common flower seeds, put up in London and in the original packets apparently, were sent for distribution. Wheat of some well known variety, in little packets, was among other agricultural seeds, and bestowed on a section of our State where wheat as a crop is almost unknown. Mignonette seeds in considerable bulk for the purpose of sowing for the use of bees; melilot or sweet clover, which, rejected from gardens and fields in Essex County, grows almost spontaneously by our roadsides and frequently on rubbish heaps as a noxious weed; and similar articles, of which it has been difficult to find recipients.

When we consider for a moment the unusual facilities enjoyed by our New England cities, especially those of Massachusetts, for the early introduction of every valuable seed, whether of field or of garden culture, the zeal and enterprise manifested towards our gardens and fields provokes a smile at the ignorance of friends of agriculture, in the want of a considerate regard for our needs or possible necessities in this line of individual or social industry. Thus the coarsest and meanest sorts are supplied us to supplant those well known and long tried; and a little better acquaintance with the botany of regions abroad, or with their agricultural resources, would prevent the trial of the Japan pea as an article of fodder—

the vetch for food of cattle—a kind of lupin, likewise—the coarser grasses for pasturage, or their seeds to feed poultry—the stalks of the Chinese broom corn to supplant the more juicy and sweeter stem of the Indian corn as forage. There may be portions of the United States, perhaps, where these and similar plants may possibly be useful; certainly they are inapplicable to the advanced culture of Massachusetts, and her gardens blossom with every hardy exotic nearly cotemporaneously with her sister gardens of Great Britain, thanks to the enterprise of the seedsmen of Boston, New York, and Philadelphia.

In view of these circumstances, it has seemed to me that a good step could be taken towards indicating the true condition of our progress in horticulture and its kindred subjects, were it the duty of some special committee of our Societies to furnish lists of all newly cultivated varieties of fruits, flowers, seeds of the field and farm introduced to their notice from year to year. Such catalogues, either in MSS. of the Society's records, or these when printed from time to time, would exhibit and furnish much needed information. I regret that I have not myself made a similar record of the seeds which have come under my own eye, thus sent to societies or to individuals for the promotion of agriculture. This Society could do no better thing than for the future to register all such gifts, whether of seeds or of scions, roots, bulbs, or the like.

The attention to this subject has likewise been called by other writers, and among these the letter of David Landreth, a most practical as well as scientific seedsman, to the Commissioner of Patents, contains a great deal of valuable facts and suggestions. It is not a matter of private interest between seed growers and seedsmen and the official department at Washington, because, however privately or in a business manner they may possibly view it, the subject extends far beyond them. It helps to perpetuate the too extensive ignorance of, and almost culpable indifference to, the fundamental principles of all agricultural industry in those who direct agricultural concerns. Too much of this exists already—and while the anniversary addresses before such societies are delivered by merely scholarly men, or through political favor, rather than by the practical farmer, or by the investigator of the mysteries of the vegetable kingdom or of the capabilities of the soil, we shall fail to enlighten those who ought to be the most interested in what they should know: and all the real advantages of chemical or scientific knowledge (for there are real as well as fictitious facts connected with the general subject) will continue to be regarded as rather matters of fancy or of theory, than of practical worth. "Of what use," is the expression of the argument, "to define by name every species of plant, to arrange in consecutive order every kind of organized life, from the minute speck of mouldiness or the tiniest bug, to the most gigantic of such forms?" And the pertinence of the query seems in favor of the doubt, until the spirit of such ignorance extends to sowing the farm or the garden with weeds and useless foreign trash—to repent, too late, at the want of a little wisdom to save us from much of such results. Some one has said "that a weed is a plant out of place," and an excellent definition

it is. How many such misplaced plants a better knowledge of systematic botany would save us.

In the management of the duty assigned the Committee, this present report can be only preliminary. It remains for the Horticultural Society to avail itself of the best plans it can command to vindicate its sense of the relation it bears, in common with other similar societies, to the most enlightened advancement of agricultural interests. Such a duty is clearly its, and the way and manner must arise from judicious and careful considerateness. Trusting for one that our Society will not prove faithless to its interests in the highest advantages of the topic its labors conspire to advocate, I have committed to you, gentlemen, these my spontaneous thoughts on matters long dwelling in my mind, and trust that out of associated and harmonious concerns, wisdom to guide and prudence to direct may accrue.

MOUNT AUBURN CEMETERY.

Boston, August 7, 1858.

At a meeting of the Massachusetts Horticultural Society, held this day, President Stickney in the chair, a communication was received from Jacob Bigelow, Chairman of the Board of Trustees of Mount Auburn Cemetery, requesting a conference with a Committee from the Massachusetts Horticultural Society, and it was

Voted, That a committee of five shall be appointed by the chair, and that the President shall be chairman of the committee, to confer with the Trustees of Mount Auburn.

The President appointed Marshall P. Wilder, Samuel Walker, Edward S. Rand, Charles M. Hovey. William R. Austin was, on motion of Mr. Strong, added to the Committee.

A true copy.

Attest, F. Lyman Winship, *Rec. Sec.*

Massachusetts Horticultural Society,
Horticultural Hall, Dec. 4, 1858.

At an adjourned meeting of the Society, held this day, President Stickney in the chair, Edward S. Rand, from the Committee appointed August 7th, to confer with a Committee of the Board of Trustees of Mount Auburn, offered the following report:—

The Committee appointed at the meeting of the Society on the 7th of August last, to confer with a Committee of the Proprietors of Mount Auburn Cemetery in relation to all matters in controversy between the two corporations, beg leave to report—

That they have attended to the duty assigned them; that they met the Committee appointed on behalf of the Proprietors of Mount Auburn Cemetery, and, after a full statement and discussion of all matters of difference and of all questions pending between the two corporations, a sub-committee was appointed, consisting of Dr. Bigelow and Benjamin A. Gould on the part of the Proprietors of Mount Auburn, and of M. P. Wilder and E. S. Rand on the part of this Society, to consider on what terms and in what manner all such matters and questions could be adjusted; that the said sub-committee, after several meetings and a very full and careful consideration of the whole subject, reported to the Committee of Conference a

plan and programme for a settlement of all questions and controversies, which plan and programme, having been explained and considered, were adopted by the Committee of Conference by an *unanimous* vote; and it was further voted that the same, together with the statement of the amount which, in the execution of the plan, would be payable by this Society to the Proprietors of Mount Auburn, should be reported to the two corporations at the next meetings to be held by them respectively.

In pursuance of this vote, your Committee now beg leave to lay before you, as a part of their report, the plan and programme adopted by the Committee of Conference; and, with their congratulations of the prospect of a most amicable and happy adjustment of all questions between the two societies, they most heartily recommend its adoption.

Your Committee further report, that upon the estimate made upon the basis agreed on, it is found that the sum of nine thousand and eight 49-100 dollars will be due from this Society to the Proprietors of Mount Auburn Cemetery.

Josiah Stickney,	Edward S. Rand,
Marshall P. Wilder,	C. M. Hovey,
Sam'l Walker,	Wm. R. Austin.

The report was accepted, and it was

Voted, That the foregoing report be adopted, and that this Society earnestly desiring a settlement, both equitable and amicable, of all questions and controversies with the Proprietors of Mount Auburn Cemetery, do hereby express their entire approval of the plan and programme submitted therewith, and do hereby adopt and ratify the same.

Voted, That in case the said plan shall be adopted by the Proprietors of Mount Auburn Cemetery, a committee of two be appointed, with full power to carry the same into effect, and to adjust all the details, and to do all the acts necessary to perfect the same, (not departing, however, from the main principles therein set forth); and that the President be and he is hereby authorized to execute, with the corporate seal, in the name and in behalf of this Society, all such deeds and other instruments as may be necessary, and as shall be approved by the said committee.

Voted, That the Treasurer, in the settlements hereafter to be made with the Proprietors of Mount Auburn Cemetery, be and he is hereby authorized to allow all such sums as, under the said arrangement, (if acceded to by the said Proprietors,) will be due and payable by this Society in the manner provided, until the indebtedness of this Society to the said Proprietors shall be fully discharged.

In conformity to the above vote, Messrs. Edward S. Rand and Marshall P. Wilder were appointed to carry the same into effect.

A true copy.

Attest, F. Lyman Winship, *Rec. Sec.*

INDENTURE.

AN INDENTURE of two parts, made this eighteenth day of December, A. D. Eighteen Hundred and Fifty-Eight, by and between the Massachusetts Horticultural Society of the first part, and the Proprietors of the Cemetery of Mount Auburn of the second part.

WHEREAS differences have for some time past existed between the Massachusetts Horticultural Society and the Proprietors of the Cemetery of Mount Auburn, the consideration of which, by the action of the said corporations respectively, was referred to a Committee of Conference, composed of members of each of the said corporations, in the hope that measures might be devised for an amicable adjustment of all differences:

AND WHEREAS the said committee, after a full and careful consideration of all the matters thus referred to them, agreed upon a plan for the complete adjustment of all differences and the final settlement of all questions between the said corporations, which plan was embodied in a report made to both of the said corporations, which Report is in the words following:

WHEREAS the Massachusetts Horticultural Society have, according to the provisions of the act of incorporation of the Proprietors of Mount Auburn Cemetery, a just claim for one fourth part of the proceeds of sales of lots in the present Cemetery, after deducting $1400 yearly for expenses:

AND WHEREAS the said Horticultural Society also claim a like proportion of the proceeds of sales of any lands which may be annexed to the present Cemetery for the purpose of enlarging the same, which claim however is denied by the said Proprietors:

AND WHEREAS the said Horticultural Society also claim one fourth part of the proceeds of single interments heretofore made from time to time in certain public lots, the fee of which is still in the said Proprietors:

AND WHEREAS certain lands adjacent to the present Cemetery have been purchased by the said Proprietors, for the purpose of annexing them to the said Cemetery as an enlargement thereof,—and it may also be found desirable, at some future time, further to enlarge the said Cemetery:

AND WHEREAS the said Horticultural Society are willing to bear their proportional part of the cost of the lands already purchased, and of such as shall hereafter be purchased, and of the cost of enclosing the same—and are also willing to bear their proportional part of the extra expenses which may hereafter be incurred in the reclaiming and filling up such parts of the said Cemetery, as it now exists or may hereafter be enlarged, as would otherwise be unsaleable or unfit for purposes of burial:—

NOW THEREFORE, with a view to effect an equitable settlement of all questions and to prevent future doubts and difficulties between the parties concerned, and to perpetuate the friendly relations existing between the said societies, the Committee of Conference recommend the adoption of the following arrangement between the two corporations:

First. The said Horticultural Society shall pay to the said Proprietors of Mount Auburn Cemetery one full fourth part of the cost of all lands lying south of Mount Auburn Street in Cambridge, heretofore purchased by

the said Proprietors for an enlargement of the original Cemetery conveyed to the said Proprietors by the said Society, estimating such cost at fifteen hundred dollars per acre, and adding thereto interest, to be compounded half yearly from April 17, 1854, taxes and other charges incurred in acquiring the title of the said lands, and all moneys already expended in improving the said lands and repairing the buildings thereon, first deducting all rents and income derived therefrom, with compound interest thereon.

Second. The said Horticultural Society shall pay one fourth part of the expense of enclosing the additional lands already purchased, in a manner corresponding with the present Cemetery, whenever the same shall be done; and shall also, in case of any future enlargement of the said Cemetery, pay their proportion, one fourth part, of the cost of any lands purchased for that purpose, and one fourth of the expense of enclosing the same.

Third. In the settlement for lands already purchased the said Horticultural Society shall be credited with the sum of one hundred twenty-five dollars, being one fourth the amount received by the said Proprietors for their interest in the dower estate of Mrs. Pomroy, (originally conveyed to the said Proprietors by the said Society,) with compound interest thereon from Dec. 20, 1844.

Fourth. The proceeds of sales of lots both in the present Cemetery and also in the lands already purchased, or which may hereafter be purchased as an enlargement of the said Cemetery, shall be divided, according to the terms of the act of incorporation of the said Proprietors, between the two corporations, after deducting ($1400) fourteen hundred dollars yearly, to be retained by the said Proprietors for expenses, in the proportion of one fourth to the said Society and three fourths to the said Proprietors.

Fifth. The Horticultural Society shall release the said Proprietors from all claims for any part of the proceeds of single interments prior to the first day of January, 1859, and from and after that time the proceeds of all such interments shall be divided between the two corporations, in the same proportions in which the sales of lots are to be divided.

Sixth. When lands otherwise unsaleable or unfit for purposes of burial shall be filled up and improved, the cost of such filling up and improvement shall first be deducted from the proceeds of sales of such lands, and one fourth of the residue shall be paid to the Horticultural Society—provided the amount of such residue shall never be less than the current price of land in the Cemetery, which is now fifty cents per square foot, except that intermediate spaces between lots, when not intended for burial, may be sold for 16⅔ cents per square foot.

Seventh. In case the said Proprietors shall hereafter build receiving tombs, catacombs, or columbaria, the Horticultural Society shall pay their proportion (one fourth) of the cost thereof, and shall be entitled to one fourth of the amounts received for interments therein.

Eighth. The necessary releases and indentures to carry into effect the foregoing arrangement shall be made and executed by and between the said parties; but the terms of the act of incorporation of the said Proprietors, so far as they regulate the relations between the two corporations, shall not be otherwise altered.

The Committee of Conference further recommend, that the amount which, under the foregoing arrangement, will be due from the Horticultural Society to the Proprietors of Mount Auburn Cemetery, be paid as follows, viz.: the said Proprietors shall retain, from the yearly amounts to which the Horticultural Society shall be entitled upon the division of the proceeds of sales, one full half part, until the whole indebtedness of the said Society shall be discharged, with yearly interest; the said Horticultural Society, however, reserving the right to pay the whole, or any part of the said sum, at any time.

JACOB BIGELOW, EDWARD S. RAND,
for the Committee.

AND WHEREAS the said Report has been adopted by the said Horticultural Society and by the Trustees of the said Proprietors, and whereas it is found, upon a careful computation upon the basis agreed on in the said Report, there will be due from the said Society to the said Proprietors, on the first day of January next, the sum of nine thousand and eight 49-100 dollars:

NOW, THEREFORE, in order to carry into effect the recommendations of the said Report the said Massachusetts Horticultural Society and the said Proprietors of the Cemetery of Mount Auburn, in consideration of the covenants hereby mutually entered into, and of one dollar by each to the other paid, the receipt of which is hereby acknowledged, do hereby covenant and agree, each with the other, in manner following:—

First. That the said Cemetery as now existing, and situated south of the street called Mount Auburn Street, in Cambridge, together with the lands already purchased as an enlargement thereof, and all additions which shall hereafter be made to the same, shall be held by the said Proprietors; and the entire control, management and direction of the same, and of all works and improvements therein, and expenditures thereon, shall be and remain in the said Proprietors and their officers, in as full and complete a manner as the same are now vested in and entrusted to them by act of Legislature incorporating the said Proprietors, passed on the thirty-first day of March, A. D. eighteen hundred and thirty-five.

Second. The yearly proceeds of all sales of lands in the said Cemetery, as it now exists or may hereafter be enlarged, together with all amounts received for single interments in any public lots or receiving tombs, after the deduction of fourteen hundred dollars therefrom, to be retained by the said Proprietors for the purposes stated in said act, shall, on the first Monday in every year, be divided between the said Proprietors and the said Horticultural Society, according to the terms of the said act, in the following proportions, viz., three fourths to the said Proprietors and one fourth to the said Society; and the said Proprietors shall at such time render to the said Society a just and true account of all sales made, and of all moneys received by them for such lands and interments during the preceding year, and shall furnish all such vouchers and evidence in regard to the same as the said Society may reasonably require.

Third. The sum of nine thousand eight and 49-100 dollars which, on the first day of January next will be due and owing from the said Horticultural Society to the said Proprietors, shall be paid in manner following, viz.: the said Proprietors shall have the right to retain out of the amount which, under the provisions of the preceding article, will yearly and in each year be due and payable to the said Society, one full half part thereof of the amount so payable, which part so retained shall be applied first to the payment of the yearly interest on the said sum, or on such part as shall remain unpaid, and the residue to the reduction and final extinguishment of the said debt, until the same shall be fully paid and discharged. Provided, however, that the said Society shall have the right to pay the whole or any part of the said sum at any time.

Fourth. The said Society hereby covenants with the said Proprietors that whenever the said Proprietors shall enclose the lands already purchased, in a manner corresponding with the present Cemetery, or otherwise, as they shall see fit, they will pay to the said Proprietors one fourth part of the cost thereof, and in like manner in case of any future additions to and enlargement of the Cemetery, they will pay to the said Proprietors one fourth part of the cost of enclosing the same, whenever such enclosure shall be completed, the time and manner of making such enclosure to be at the discretion of the said Proprietors.

Fifth. Whenever lands, otherwise unsaleable or unfit for purposes of burial, shall be filled up and improved, the cost of such filling up and improvement shall first be deducted from the proceeds of sales of such lands, and the residue only shall be the amount to be accounted for by the said Proprietors, and to be divided between the two corporations in the manner specified in the second article of this indenture. Provided, however, that the amount of such residue shall never be less than fifty cents per square foot, except that intermediate spaces between lots, when not intended for burial, may be sold for sixteen and two thirds cents per square foot.

Sixth. In case the said Proprietors shall hereafter build receiving tombs, catacombs or columbaria in the said Cemetery, the said Horticultural Society shall pay one fourth part of the cost thereof, and shall be entitled to one fourth part of all amounts received for interments therein.

Seventh. The said Horticultural Society hereby release the said Proprietors from all claims and demands for or on account of any and all moneys received, or which shall be received by the said Proprietors for single interments, in the said Cemetery, prior to the first day of January next.

Eighth. It is understood and agreed that the said Horticultural Society have no interest in the lands situated on the northerly side of Mount Auburn Street, on which the gardener's house now stands, and the said Society hereby expressly disclaims all right, title and interest therein.

In witness whereof, the said Horticultural Society have caused their corporate seal to be hereto affixed, and these presents, the same having been approved by Marshall P. Wilder and Edward S. Rand, a committee

appointed for that purpose, to be subscribed on behalf of the said Society by their President, Josiah Stickney; and the said Proprietors of the Cemetery of Mount Auburn have caused their corporate seal to be hereto affixed, and these presents to be subscribed by their President, Jacob Bigelow, the day and year first above written.

In presence of
HOLLIS HUNNEWELL, to Mass. Hort. Society.
Massachusetts Horticultural Society, by
JOSIAH STICKNEY. [L. S.]

Approved,
MARSHALL P. WILDER,
EDWARD S. RAND,
Comm. of Mass. Hort. Society.

Proprietors of the Cemetery of Mount Auburn, by
JACOB BIGELOW, *President.* [L. S.]
HOLLIS HUNNEWELL, (to J. Bigelow.)

Commonwealth of Massachusetts.

SUFFOLK, ss. BOSTON, December 24, A. D., 1858.

The above named Jacob Bigelow, President of the Proprietors of the Cemetery of Mount Auburn, acknowledged the foregoing instrument to be the free act and deed of the said Corporation, and the above named Josiah Stickney, President of the Massachusetts Horticultural Society, acknowledged the same to be the free act and deed of the said Society.

Before me,
EDWARD S. RAND, *Justice of the Peace.*

MASSACHUSETTS HORTICULTURAL SOCIETY,
Horticultural Hall, Dec. 18, 1858.

At an adjourned meeting of the Society, held this day, President Stickney in the chair. Edward S. Rand, from the Committee appointed to execute an Indenture with the Proprietors of Mount Auburn Cemetery, presented the Indenture which had been prepared for execution, and, the same having been read, the President was authorized to execute the same.

A true copy,
Attest, F. LYMAN WINSHIP, *Recording Secretary.*

At an adjournment of the regular monthly meeting of the Trustees of the Proprietors of the Cemetery of Mount Auburn, held in Boston, December 20, A. D. 1858, the Committee of Conference, having reported the terms of adjustment agreed upon in behalf of the Massachusetts Horticultural Society, upon the one hand, and of the said Proprietors upon the other, in

the form of an Indenture, in two parts, bearing date the 18th day of December, A. D. 1858, the same was read and considered, and it was thereupon unanimously voted, That said Indenture be accepted and adopted by this Corporation, and that the President, Jacob Bigelow, in behalf thereof, be authorized to execute the same, with the corporate seal, and to acknowledge said Indenture, in behalf of said Corporation, and to exchange the same with the said Massachusetts Horticultural Society. And it was further voted, That said Indenture be recorded in the Registry of Deeds for the county of Middlesex.

A true copy.

Attest, Austin J. Coolidge, *Secretary.*

ORGANIZATION OF THE GOVERNMENT

For the Year 1859.

At the annual meeting of the Society for the induction into office of the new Board of Government, held on the 1st of January, the following Addresses were delivered by the retiring President, Josiah Stickney of Watertown, and his successor in office, Joseph Breck of Brighton:—

ADDRESS OF MR. STICKNEY.

Gentlemen of the Massachusetts Hort. Society—

We have a dark and unpropitious morning, but the silent, unerring revolutions of time remind us of the duties devolving upon us to be performed at this meeting, it being the day, in accordance with our by-laws, on which the officers chosen at the last election are to enter upon their duties. On the present occasion there will be fewer changes as compared with the last year.

You are probably all aware that I accepted the office of President with the understanding that I should not be called upon to serve a second term, and the time has now arrived when I can return to the ranks of my associates and fellow-laborers; and although my time of service has been short, it has been of unusual interest to me from the beginning to the close, for I have been surrounded by those always ready and willing to assist me in carrying forward the business of the Society, and thus my duties have been easy and pleasant.

During the past year we have parted with one of the earliest friends and warmest advocates of this institution; one of those whose earnest appeals to his friends and the public awakened them to action, and resulted in founding the Massachusetts Horticultural Society,—I allude to Mr. Zebedee Cook. He was our second President, and the Society owes a large debt of gratitude to him for the active and disinterested efforts he made in its behalf. Thus one by one are falling from our ranks, a class of men whose large hearts, open hands, and earnest zeal in the science of horticulture have laid the foundation of our Society on a solid basis. May we not hope that we have those among us that will preserve and continue to improve the work so well begun, and hand it down to our successors increased in strength and usefulness?

Our Professors are also laboring assiduously to throw new light upon the numerous subjects of interest which are so constantly presenting themselves to their notice.

The Treasurer's office is one of great responsibility, and all who know the gentleman filling that station will bear witness to his fidelity and industry.

The Superintendent has been punctual at his post, and has always discharged his obligations with undeviating fidelity.

The several Committees are deserving of high praise for the very prompt and efficient manner in which they have performed their respective duties.

Gentlemen, I most heartily congratulate you upon the general prosperity of this Society, and most especially on the termination of the differences existing between us and the Mount Auburn Corporation. That Company magnanimously requested a committee of conference to be appointed by us, to confer with one selected by them. The result is the adoption of an extended and well defined contract, to last as long as that Corporation exists. This amicable settlement I regard as the most important ever made by us, except the one by which this Society surrendered to them those lovely grounds in the contract of 1835. This entire negotiation has been entered into and carried to successful completion in a spirit of moderation and reciprocal kindness, which, I hope, is an earnest of its continuance to the end of time.

Our Society is out of debt, and in the possession of a very valuable real estate as well as personal property. We enter upon the new year with the flattering prospect of an increasing revenue.

The gentleman just elected as your President joined you as a member the day your act of incorporation was dated; since that time he has been engaged in horticultural pursuits and rural affairs, as cultivator, editor and publisher. Few men have done more for our cause than he has been doing for nearly a third of a century. With the evidences of his taste and devotion to his calling, we cannot doubt his success in the official capacity he is now to enter upon.

Gentlemen, I now tender you my heartfelt thanks for the many kind evidences of attention and approbation which you have extended towards me. They will not be forgotten while I live. I am conscious of having discharged the duties of the office I am vacating to the best of my abilities, trusting some progress has been made during that brief period.

I now surrender the chair to my successor, with all its honors and responsibilities, most cordially recommending him to your kind care and consideration, and extending to each of my fellow members a happy New Year.

ADDRESS OF MR. BRECK.

Gentlemen:—

Our worthy and highly esteemed President, who now retires from the post of honor, which he has occupied the past year with so much credit to the Society and honor to himself, parts from us in his official capacity, with the cordial good wishes and the unanimous approbation, I think I may safely say, of every individual member of this Society. The only thing which causes any regret, was his refusal to permit us to elect him to the same post for another year.

I am not a little embarrassed by the kind and flattering manner in which he has been pleased to allude to my long connection with this Society, the nterest I have always manifested in rural and horticultural pursuits, and to the services I have rendered to the Society and to the public, for I fear

that, with this high commendation lavished upon me as I am about to enter this new relation with the Society, I may not be able to meet the expectations of success which he so charitably anticipates in my administration.

As I enter upon the duties and responsibilities of the office to which you have elected me, I must confess that I have some misgivings, and feeling of diffidence, as I remember the talent, energy, and enthusiasm of those who have, with so much credit and honor, presided over the Society from the commencement of its organization. Depending, however, upon the same coöperation, kindness, and support which I have experienced from you, in various relations and offices connected with this Society for nearly thirty years, I have more confidence to hope that I shall be able to discharge the duties which devolve upon me in such a manner that the interests of the Society will be advanced, and its honor maintained.

For many years we have been making steady progress in the advancement of horticultural knowledge, not only among ourselves, and in our own community, but our experience, influence, and example has been of great benefit to other societies and individuals throughout the country. We have been more successful than the most sanguine and enthusiastic could have anticipated, in the earlier stages of our existence as a Society.

Although we have not yet reached the period when it would be considered prudent to set about the establishment of the experimental garden, so long desired, and once prematurely commenced but fortunately abandoned, yet I believe the time is not far distant, when, by the increase of our capital from funds invested, from our income from Mount Auburn, and from liberal donations which we may expect for an object so desirable, this Society may be enabled to carry into execution its original and favorite design.

While I do not think it for the interest of the Society to recede from its accustomed liberality in the appropriations, any expenditure not in accordance with the strictest economy, and the necessities of the Society, should be carefully avoided. We have been entrusted with funds which should be held sacred, not only for the benefit of the present generation, but for those who are to come after us.

I have but little to suggest in relation to the operations of the Society for the year on which we have entered. The programme for the season has already been arranged in general details. Our organization is complete; our rules and regulations as near perfection as we can expect; our committees are composed of experienced and efficient members, and there does not appear to be any obstacle in the way to prevent our continued prosperity and usefulness, unless it be a lack of interest on the part of contributors, or a want of punctuality on the part of committees and officers.

For the honor of our Society, and that its high reputation may be sustained, I respectfully invite the members to be present or send, when they have anything worthy of exhibition, on every day the Hall is open to the public, whether premiums are to be awarded or not, when not inconsistent with other engagements.

As our present accommodations do not give us the satisfaction and comfort we desire, I approve the action of the Society in choosing a committee to take into consideration the expediency of disposing of our real estate and locating elsewhere, or so arranging the place we now occupy that we may have conveniences better adapted to our wants and more in accordance with the spirit of the age. In addition to a large exhibition room, we need one of smaller dimensions for winter, and other light and airy rooms for the library, business, and the convenience of the committees. In connection with the business, library, and winter rooms, or a combination of these rooms, we should have the conveniences for a horticultural exchange, or a place where we may meet, from week to week, to hold social intercourse and recount our successes or failures, discuss the merits of the last new fruit or flower, or to communicate whatever may relate to the subject we have so much at heart. Probably there is no other pursuit that so effectually modifies, or annihilates the distinctions, which custom has made in society. Personal rank and distinction have, on this, submitted to the equality which nature recognizes. If, therefore, any change is to be made, let us have a place provided where rank, talent, wealth, industry, and skill may blend, and where all classes may freely exchange opinions, and receive instruction and encouragement from each other, and thus new life and energy be imparted to all.

The rich displays of fruits, flowers, and vegetables, at our annual exhibitions, have been a prolific source of instruction to all interested in horticulture who have attended them. It has been a kind of harvest-home to the members; a holiday week of social intercourse among ourselves and with members of kindred societies; a week in which more instruction has been received in the study of the productions thus exhibited, and in exchange of opinions, than from all the other exhibitions of the year. Whether we have pitched our tent on the Common, or occupied the Music Hall, or made use of our own premises (as we did last year), for the exhibition, we have found that the expenses sometimes exceed the receipts rather more than we could wish. This exhibition is highly desirable, but should be made to draw as lightly as possible upon the treasury. If a few hundred dollars are necessary to make up any deficiency that may occur, it should be considered as money well appropriated, although it is important that the exhibition should pay for itself.

I believe the interests of the Society would be greatly advanced if some of our practical and experienced cultivators would exercise their pens with a little more freedom. Many of our members have accumulated a great amount of horticultural knowledge, have had long experience, and write with ease and fluency, and only need a hint, without a pressing invitation or hope of reward, to set themselves at work in this direction. There are some of us who would be glad to receive further instruction on various subjects; and among the many which interest us, perhaps none more so at the present time than on the cultivation of the pear and grape.

As to the pear, it is well known that there is a great difference in the results of different cultivators. There are those who invariably exhibit

fruit in the highest state of perfection as to size, shape, color, and flavor; while with others, who apparently exercise the same care, there is a very strong contrast in every particular. There are some varieties which not unfrequently prove a perfect failure, even with those who, with other varieties, are most successful—for example, the Easter Beurré. We see splendid specimens of this variety grown by some cultivators, perfect in every respect, ripening off in the proper season, with delicious flavor. There are others who do not succeed in obtaining hardly fair specimens; and these cannot be brought into an eatable state. With some the pear crop is a most profitable one; with others it is indifferent, and with others almost a total failure.

It is important to know what makes the difference: to know what varieties succeed best in a dry, moist, heavy, light, or loamy soil, or in what combination of soils, or the chemical ingredients of such soils; what succeeds best in any particular soil, either on the pear or quince stocks; the best compost or manures, and the best time and mode of applying them, with all the details of cultivation, with the best method of preserving and ripening late or winter varieties when grown. I think essays by practical men on these and other points in the pear culture would be of great service to those who have had but little experience. I would suggest to the Society the importance of offering special premiums for one or more of the best well written and practical articles on this subject.

The cultivation of the grape is becoming a subject of great interest to the country, not only that we may have an abundance of good fruit for the table, but that we may be enabled to supply ourselves with a pure, cheap, and wholesome wine. While we have many hopes and expectations, there are also many discouragements. Climate is against us here in the North, and mildew often defeats our most careful efforts. The Isabella, Catawba, and some other hardy varieties, are very excellent when fully ripened; but it is only in the very best seasons, and in some favored localities, that they are brought to perfection. The Diana, the most desirable hardy grape that has been tested, as well as the delicious and hopeful Rebecca and Delaware, with others, and the varieties just named, are all subject to mildew, or have been within a few years past. When the foliage is injured or destroyed by mildew, or any other cause, the fruit cannot be ripened and brought to perfection, nor the wood be fully prepared to endure the winter, or for fruiting the following season.

Sulphur has been recommended as a preventive, and has been used to some extent, but with what general success I have not been informed. In one case that came under my own observation, it did not prevent it; possibly it might not have been applied in season. Any information as to its cause and prevention will be of great service at the present time, and if there are those among us who have experience, and can throw any light upon the subject of mildew, they will confer a favor upon the Society, and receive the thanks of the public, if no other reward should be received.

But if climate and disease are hostile to the varieties I have alluded to, we are not to be discouraged in our efforts to obtain more hardy varieties

for the table or vineyard. Our country abounds with the wild grape in varieties innumerable, of varied size, flavor and color; but all possessing, more or less, that strong, foxy taste, so disagreeable to those who are familiar with the delicious foreign varieties grown in such perfection under glass. There can be but little doubt that in process of time we shall obtain from our wild species, or varieties, all we desire in the grape for hardiness, freedom from disease, early ripening, improvement in flavor and pulp, but it must be a work of time, patience, and perseverance. There is no reason why there should not be the same improvement made in the grape as there has been in the wild plum, apple, or pear; or in the rose and dahlia, or in any other wild fruit or flower. God has given us the raw material, if I may so express it, and leaves it for our amusement and gratification to bring out of the simple wild flower, beautiful and gorgeous varieties without end; and from harsh, unpalatable wildings, luscious fruits of every conceivable variety of flavor and beauty. The improvements that have been made in the second remove from the wild grape, as is witnessed in the Concord, should give us greater confidence of final success. The Society should give the most liberal encouragement for every improvement made in this direction.

Horticultural tastes have a very great tendency to improve the mind, refine the manners, and increase the happiness of man. Every new plant, and every new fruit or flower, add an additional charm to the life of those whose inclination or taste has led them to this pursuit. Kind feelings, as a general rule, characterize those who find amusement in the cultivation and improvement of the trees, plants, fruits, and flowers which the God of nature has given us. Those of us who can look back upon many years of pleasurable intercourse in this Society, and call to mind the amount of happiness we have derived from horticultural pursuits, and believing as we do that this happiness rarely diminishes with age, most earnestly recommend to the young members of the Society to give themselves to the study, as well as the practice, of horticulture, so that they may not only secure to themselves a never-failing source of happiness, but also, by their united efforts, prove benefactors to their country, by their influence and example, and by the diffusion of knowledge.

If we would realize the anticipations of those who organized this Society, and with so much energy and zeal put it in motion, and if we would not disappoint the hopes of those who have joined our ranks from year to year, and carried on its operations with no less energy and zeal, we must all put our hands to the work with the same unity of purpose, intelligence, and devotion that have characterized those who have preceded us. We must not be satisfied with any progress or improvement that has been made, or can be made, until every fruit or flower, "good for food or pleasant to the sight," that can be cultivated in our climate, has been brought to its highest state of perfection.

MEMBERS

OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY.

A * DENOTES THE MEMBER AS DECEASED.

MEMBERS FOR LIFE.

*Adams, Daniel, *Newbury.*
Adams, George E., *Medford.*
Allen, John Fisk, *Salem.*
Amory, Charles, *Boston.*
Amory, James S., "
Andrews, W. T., "
Andros, Milton, *Brookline.*
Appleton, Nathan, *Boston.*
Appleton, Robert, "
*Armstrong, Samuel T., *Boston.*
Aspinwall, Augustus, *Brookline.*
Austin, William R., *Dorchester.*

Barnard, Rev. C. F., *Boston.*
Barnes, William H., *Roxbury.*
Bartlett, E., *Newburyport.*
Barrows, Thomas, *Dedham.*
Bemis, Amory, *Cambridge.*
Blagg, Samuel, *Waltham.*
Blake, George B., *Brookline.*
Blodgett, J. W., *Boston.*
Bond, George W., *Roxbury.*
Bouvé, Th. T., *Boston.*
Bowditch, A. C., "
Bowditch, J. Ingersoll, *Roxbury.*
Bradford, Samuel D., *W. Roxbury.*
Bradlee, J. B., *Boston.*
*Bradlee, Joseph P., "
Bradlee, Josiah, "
Breed, Andrew, *Lynn.*
Breed, Henry A., "
*Brewer, Eliab Stone, *Roxbury.*
Brewer, Gardner, *Boston.*
Brewer, John Read, "
Brewer, Otis, *Roxbury.*
Brewer, Thomas, *Boston.*
Bright, Jona. B., *Waltham.*
Brown, Ebenezer, *Lynn.*
Burr, Fearing, Jr., *Hingham.*
Burr, M. H., "

Cadness, John, *New York.*
Carruth, Ch., *Boston.*
Carruth, Nathan, *Dorchester.*
*Chapman, Jona., *Boston.*
Chase, Hezekiah, *Lynn.*
Chase, Hezekiah, *South Boston.*
Chase, Wm. M., *Worcester.*
Clapp, Thaddeus, *Dorchester.*
Cleveland, Ira, *Dedham.*
*Codman, John, *Dorchester.*
Collamore, G. W., *Boston.*
Comer, G. N., *Newton.*
Comerais, Henry, *Dedham.*
Copeland, R. M'Cleary, *Boston.*
Copeland, R. Morris, *Lexington.*
Courtis, William, *Marblehead.*
Crafts, Ebenezer, *Roxbury.*
Crocker, Uriel, *Boston.*
*Crowningshield, George C., *Boston.*
Cummings, John, Jr., "
Cushing, Thomas T., "

Daggett, H. L., *Boston.*
Dana, Ch. B., *Brookline.*
Dana, Nathaniel, "
*Decker, Louis, *Boston.*
Dennie, Daniel, *Dorchester.*
*Denny, George. *Westborough.*
Denny, R. S., *Dorchester.*
Dexter, G. M., *Boston.*
Downer, Samuel, *Dorchester.*
Duncklee, John, *Brighton.*
Durfee, Mrs. F. B., *Fall River.*
*Durfee, Geo. B., "
Durfee, Nathan, "

*Edwards, Elisha, *Springfield.*
Eliot, Samuel A., *Boston.*
Everett, Otis G., "

Fairbanks, H. P., *Charlestown.*
Fairbanks, Stephen, *Boston.*
Fearing, Albert, "
Fenno, John, *Chelsea.*
Fisher, Warren, *Roxbury.*
*Fiske, Oliver, *Worcester.*
Foster, John H., *Boston.*
Foster, J. W., *Dorchester.*
French, Benjamin V., *Dorchester.*
French, Jonathan, *Roxbury.*
Frothingham, S. C., *Boston.*
Fuller, Henry Weld, *Roxbury.*

*Gaffield, James, *Gloucester.*
Gage, Addison, *West Cambridge.*
Gardner, W. F., *Salem.*
*Gibson, Kimball, *Boston.*
*Gilmore, Addison, "
Grinnell, Joseph, *New Bedford.*
Groom, Thomas, *Dorchester.*

*Hall, Adin, *Boston.*
*Harris, William T., *Cambridge.*
Hastings, Edmund T., *Boston.*
Hayden, A. W., *Portsmouth.*
*Hedge, Isaac L., *Plymouth.*
Hazeltine, H., *Boston.*
Holbrook, C. S., *E. Randolph.*
Hooper, John, Jr., *Marblehead.*
Hooper, Robert C., *Boston.*
Hovey, C. M., *Cambridge.*
Hovey, P. B., *Cambridgeport.*
Howe, George, *Roxbury.*
*Howe, Hall J., *South Boston.*
Howe, Jabez C., *Boston.*
Howe, John, *Brookline.*
Howland, Henry, *Malden.*
Howland, John, Jr., *New Bedford.*
Hubbard, G. G., *Cambridge.*
Hubbard, W. J., *Boston.*
Huckins, James W., *Roxbury.*
Hunnewell, H. H., *West Needham.*

Jones, C. F., *Roxbury.*
*Jones, Thomas, *Boston.*
Johnson, Otis, *Lynn.*

Kendall, D. S., *Boston.*
Kenney, John M., *Wareham.*
Kimball, A. P., *Boston.*
King, Edward, *Dorchester.*
King, Franklin, "
King, William S., *Roxbury.*
Kingsbury, Wm. B., "
Kinsley, Lyman, *Canton.*
Kittredge, E. A., *Boston.*

Lamb, Thomas, *Boston.*
Lawson, Peter, *Dracut.*
Leavens, S. Davis, *Boston.*
Lee, George, *Watertown.*
Leland, George, *Waltham.*
Lewis, A. S., *Framingham.*
Lewis, Wm. G., "
Lincoln, Levi, *Worcester.*
*Lincoln, William, "
*Lloyd, James, *Boston.*
Lodge, Giles H., "
Lombard, I., "
Lothrop, Ed. W., *Chelsea.*
Lovett, G. A., *Beverly.*
Lowder, John, *Watertown.*
Lyon, Henry, *Charlestown.*

Mann, Jonathan, *Cambridge.*
Manning, Joseph, *Medford.*

Manning, Robert, *Salem.*
Mansfield, H. S., *Blackstone.*
*March, Andrew S., *Roxbury.*
Marland, A., *Andover.*
Marsh, Francis, *Dedham.*
*Martin, Richard T., *Boston.*
May, Samuel, "
Merriam, Charles, *West Newton.*
Mills, Charles H., *Boston.*
Milton, W. H., *Roxbury.*
Minot, Charles, *Somerville.*
Mixter, Charles, *Boston.*
Morse, S. B., "
Morse, Samuel F., "
Motley, Thomas, Jr., *W. Roxbury.*
Mudge, E. R., *Lynn.*
Mudge, Geo. W., "

Newhall, Cheever, *Dorchester.*
Newhall, George, "
Newhall, John M., "
Newhall, Josiah, *Lynnfield.*
Newman, Henry, *Roxbury.*
Nourse, B. F., *Boston.*
Nuttall, Thomas, *of England.*

Paige, James W., *Boston.*
Paine, Robert T., "
Palmer, J. P., "
Parker, Augustus, *Roxbury.*
*Parker, Daniel P., *Boston.*
Parker, James, "
Parker, William A., "
*Parkman, Rev. Francis, *Boston.*
*Parsons, Gorham, *Brighton.*
*Parsons, William, *Boston.*
Partridge, Henry, *Medfield.*
Peirce, S. B., *Dorchester.*
Perkins, Ed. N., *Brookline.*
Perkins, Wm. P., "
*Perry, John, *Sherborn.*
Poole, Benjamin C., *Chelsea.*
Pope, Alexander, *Dorchester.*
Pratt, George W., *Boston.*
Prescott, C. H., *Cornwallis, N. S.*
Preston, John, *Dorchester.*

Rand, E. S., *Dedham.*
Rand, E. S., Jr., "
Reed, George W., *Kingston.*
Reynoso, Bernard de, *S. Boston.*
Richards, Edward M., *Dedham.*
Richards, William B., *Boston.*
Robinson, J. H., *Dorchester.*
*Rotch, William, *New Bedford.*
Russell, George R., *Roxbury.*

Sampson, G. R., *Brookline.*
Sanford, O. S., *Cordaville.*
Sargent, Ignatius, *Brookline.*
*Seaver, Nathaniel, *Roxbury.*
Sever, J. W., *Dorchester.*
*Shaw, Robert G., *Boston.*
Sheafe, Ch. H., *Newtonville.*
*Silsby, Enoch, *Bradford.*
Smith, Ch. A., *Boston.*
*Smith, Stephen H., *Providence.*
Sparhawk, Edward C., *Brighton.*
Springer, John, *Sterling.*
Stetson, Nahum, *Bridgewater.*
Stevens, Paran, *Boston.*
Stickney, Josiah, *Watertown.*
Stimpson, George, *Charlestown.*
Stone, G. F., *Newton.*
Story, E. A., *Brighton.*
Story, F. H., *Salem.*
*Story, Joseph, *Cambridge.*
Sturgis, William, *Woburn.*
Swain, Ch. D., *Roxbury.*

Tappan, Charles, *Boston.*
*Teschemacher, J. E., "
Thaxter, A. W., Jr., "
*Thayer, J. E., "
*Thorndike, Israel, "
Thorndike, John H., "
*Towle, Lyman, "
Tremlett, Thomas, *Dorchester.*
Turner, J. M.
Turner, R. W., Jr., *Randolph.*

Wainwright, Peter, *Boston.*
Wakefield, E. H., *Chelsea.*
*Waldo, Daniel, *Worcester.*

Walker, Edward C. R., *Roxbury.*
Walker, Samuel, "
Walker, Samuel A., *Brookline.*
Walker, T. W., *Waltham.*
Warren, G. W., *Boston.*
Webber, A. D., *W. Needham.*
Webster, Joshua, *Lynn.*
Webster, Nathan, *Haverhill.*
Weld, Richard H., *Roxbury.*
Welsh, J. H., *Dorchester.*
*West, Thomas, *Haverhill.*
Whitcomb, Levi, *Boston.*
White, B. C., *Boston.*
Whiting, Nathaniel, *Brookline.*
Whitmore, C. O., *Boston.*
Whytal, Thomas G., *W. Roxbury.*
Wight, Eben., *Dedham.*
Wilder, Marshall P., *Dorchester.*
Williams, Aaron D., *Roxbury.*
Williams, Aaron D., Jr., "
Winship, Franklin, *Brighton.*
Winship, F. Lyman, "
Wolcott, Edward, *Pawtucket.*
*Worthington, William, *Dorchester.*

ANNUAL MEMBERS.

*Adams, Benjamin, *Boston.*
Adams, Charles F., *Quincy.*
Adams, Ch. Fred., *Boston.*
Adams, Joseph H., "
*Adams, Z. B., "
Albree, John, "
Ames, R. W., *Roxbury.*
*Andrew, John H., *Salem.*
Andrews, Alfred A., *Boston.*
*Andrews, Ebenezer T., "
*Andrews, Ferdinand, "
Andrews, F. W., "
*Andrews, Robert, "
Apple, Antone, *Cambridge.*
Appleton, Samuel A., *Boston.*
*Arnold, John, *Dorchester.*
Ashby, William, *Newburyport.*

Bachelder, Samuel, *Cambridge.*
*Bachi, I. C., *Dorchester.*
Bacon, William, *Roxbury.*
Bailey, Dudley H., *Boston.*
Bailey, Kendall, *Charlestown.*
*Baker, Walter, *Dorchester.*
Baker, W. P., *Quincy.*
*Balch, Joseph, *Roxbury.*
Barnes, Parker, *Dorchester.*
*Barrett, George C., *Boston.*
Bartlett, Enoch, *Roxbury.*
Bartlett, Levi, *Boston.*
*Belknap, A. E., "
Bennett, Oliver, *Framingham.*
Bigelow, George T., *Boston.*
Bigelow, Samuel, "
Billings, Joseph H., *West Roxbury.*
Blake, G. T., *Boston.*
Bliss, B. K., *Springfield.*
Boott, William, *Boston.*
Bowditch, Azell, *Roxbury.*
Boyd, Francis, *Boston.*
Brackett, C. N., *Newton.*
Brackett, E. A., *Winchester.*
*Bradbury, Charles *Boston.*
Bradford, Charles F., *Roxbury.*
Bradlee, Henry, *Medford.*
*Bradlee, Joseph, *Boston.*
Bradlee, J. T., "
Bradley, Benjamin, "
Breck, C. H. B., *Brighton.*
Breck, Joseph, "
*Bridge, Nathan, *Charlestown.*
*Brimmer, Martin, *Boston.*
Britton, S. A., *Roxbury.*
Brown, Frederick, *Boston.*
*Brown, James, *Cambridge.*
Brown, Simon, *Concord.*
Bryant, Albert W., *Lexington.*
Buckman, Bowen, *Woburn.*
Bull, E. W., *Concord.*
Bullard, Calvin, *Boston.*
Bullard, Lewis, *Dedham.*
Burley, Edward, *Salem.*

Burnett, Joseph, *Southborough.*
Burns, Edward, *Brighton.*
Busch, John W,, *Brookline.*
Buswell, E. W., *Malden.*

Cabot, Edward C., *Brookline.*
Cabot, Joseph S., *Salem.*
Caines, William, *South Boston.*
Carey, Isaac, *Boston.*
Carter, William E., *Cambridge.*
Chadwick, Joseph H., *Roxbury.*
Chaffin, John C., *Newton.*
Chandler, Horace B., *Milton.*
Chenery, William W., *Watertown.*
Cheney, Arthur, *Boston.*
Chickering, Horatio, *Dedham.*
*Chickering, Jonas, *Boston.*
Childs, L. C., *East Lexington.*
Clapp, W. W., Jr., *Boston.*
Clark, E. D., *Boston.*
Clark, John J., *Roxbury.*
Clark, Joseph W., *Dedham.*
Clark, Randolph M., "
Cleaves, Ezra C., *Beverly.*
Cobb, Jonathan H., *Dedham.*
*Cole, S. W., *Boston.*
Collamore, John Jr., *Boston.*
Comins, Linus B., *Roxbury.*
Converse, Joshua, *Woburn.*
Copeland, Charles, *Wyoming.*
Cordwell, G. B., *Roxbury.*
Crafts, W. A., "
Crocker, Fred. W., *Barnstable.*
Crooker, Ralph, *Roxbury.*
Crosby, Josiah, *West Cambridge.*
Cross, R. A., *Boston.*
*Crowninshield, Benjamin W., *Boston.*
*Crowninshield, George C., "
Cunningham, F., *Milton.*
Curtis, William, *Newton.*
Curtiss, Charles F., *West Roxbury.*
Curtis, D. T., *Boston.*
Cutter, George B., *Weston.*

Dana, Francis, *Roxbury.*
*Dane, John, *Boston.*
Daniel, Ellery C., *Dedham.*
*Daniel, Josiah, *Dedham.*
Davenport, George, "
Davenport, J., *Brookline.*
Davenport, Lewis, *Milton.*
Davis, Adolphus, *Boston.*
Davis, Barnabas, "
*Davis, Isaac P., "
Davis, Seth, *West Newton.*
Davis, W. H., *Milton.*
Dean, A. J., *Roxbury.*
Deane, John, Jr., *Dedham.*
*Dearborn, Henry A. S., *Roxbury.*
Dennison, J. N., *Boston.*
*Derby, John, *Salem.*
Dexter, Anson, *Roxbury.*
Dillaway, Charles K., *Roxbury.*
*Dimmock, J. L., *Boston.*
Dixwell, J. J., *West Roxbury.*
*Downer, Samuel, *Dorchester.*
*Dowse, Thomas, *Cambridgeport.*
Driver, Stephen, *Salem.*
*Dudley, David, *Roxbury.*
Dutton, Henry W., *Boston.*

Eastburn, John H., *Boston.*
Eaton, Jacob, *Cambridgeport.*
Edmonds, J. W., *Boston.*
Eldridge, J. S., "
*Eldridge, Chas. H., "
Ellis, Jonathan, "
Emerson, Benjamin D., *Roxbury.*
Emerson, E. C., *Boston.*
Estabrook, J. A., *Belmont.*
*Eveleth, Joseph, *Boston.*
Everett, George, *Concord.*
Evers, Gustav, *Brighton.*
Eustis, James, *South Reading.*

Faxon, Nathaniel, *Boston.*
Fay, Isaac, *Cambridge.*
*Fessenden, Thomas G., *Boston.*
Fisk, Robert T. P., *Hingham.*
*Fitch, Jeremiah, *Boston.*
Forbush, Jonathan, *Bolton.*
Ford, Elisha B., *Boston.*
Fowle, Seth W., *Brookline.*
*Francis, David, *Boston.*
French, Asa, *Braintree.*

Frothingham, Samuel, *Boston.*
Fuller, Henry A., *Cambridge.*
Fussell, John, *Roxbury.*

Galvin, John, *Somerville.*
Gammell, John, *Lexington.*
Gardner, John, *Dedham.*
Goddard, Thomas, *Boston.*
Gordon, John, *Brighton.*
Gould, Augustus A., *Boston.*
Grant, Charles E., *Roxbury.*
Grant, E. B., *Watertown.*
*Gray, John, *Boston.*
Gray, John C., "
Greenough, D. S., *West Roxbury.*
*Greenough, David S., " "
Griggs, Charles, *Boston.*
*Grosvenor, L. P., *Pomfret, Ct.*
Grundell, H., *Dorchester.*
*Guild, Benjamin, *Boston.*
Guild, Chester, *Somerville.*
Gwynneth, William O. H., *Boston.*

Haggerston, David, *Roxbury.*
Hall, C. J., *Medford.*
Hall, Dudley, "
Hall, Jesse, *East Cambridge.*
*Hallett, George, *Boston.*
Haley, Jesse, *West Cambridge.*
Hancock, Mrs. Catharine, *Roxbury.*
Harding, Newell, *Boston.*
Harrington, Bowen, *Lexington.*
Harris, Miss Ellen M., *Jamaica Plain.*
*Harris, Richard D., *Boston.*
Harris, William A., *Newton.*
Hastings, Thomas, *Lechmere Point.*
Hatch, Anthony, *Saugus.*
Hatch, Samuel, *Boston.*
*Hayden, John, *Brookline.*
Healey, Mark, *Lynn.*
*Heard, John, *Boston.*
Hendee, C. J., *Roxbury.*
Henshaw, Samuel, *Boston.*
Heustis, Warren, *Belmont.*
*Hewens, Whiting, *Roxbury.*
Hewins, Charles A., "
*Higginson, Henry, *Boston.*
Hill, James, *Somerville.*
Hill, Jeremiah, *Boston.*
Hill, John, "
*Holbrook, Amos, *Milton.*
Horton, Henry K., *Boston.*
Hosmer, Z., *Cambridge.*
*Hovey, John, *Roxbury.*
*Howard, John C., *Brookline.*
Howe, Estes, *Cambridge.*
Howe, Joseph N., *East Cambridge.*
Howe, Rufus, *Marlborough.*
Howe, S. G., *South Boston.*
Hunneman, J. J., *Roxbury.*
Hyde, George, *Newton.*
Hyde, J. F. C., "
*Hysop, David, *Brookline.*

Jenks, J. H., *Boston.*
Jenney, William P., *Fairhaven.*
Jennings, Levi, *Newton, L. F.*
*Johnson, Samuel R., *Charlestown.*
*Johnston, William, *South Boston.*
Jones, James L., *Chelsea.*
*Joy, Joseph G., *Boston.*

Kelley, E. G., *Newburyport.*
Kennard, M. P., *Brookline.*
Kenrick, John A., *Newton.*
Kenrick, William, "
Kimball, Charles, *Winchester.*
Kittredge, Alvah, *Roxbury.*
Knott, James, *Boston.*

Ladd, William G., *Watertown.*
*Lamb, John A. W., *Boston.*
Lathrop, John, *Dedham.*
*Lawrence, Abbott, *Boston.*
*Lawrence, Amos, "
Lawton, Walter, *Brookline.*
Lee, Francis H., *Salem.*
Lee, Thomas, *Brookline.*
Leeds, Samuel, *South Boston.*
*Lemist, John, *Roxbury.*
Leuchars, R. B., "
Lincoln, Calvin A., *Hingham.*
Lincoln, F. W., *Canton.*
Lincoln, F. W., Jr., *Boston.*

Little, C. C., *Boston.*
Livermore, Aaron, *Newton.*
Livermore, Isaac, *Cambridgeport.*
Lockwood, R. G., *Charlestown.*
Lombard, I., Jr., *Newton.*
Loring, Benjamin, *Boston.*
Loring, C. G., "
*Loring, Wm. J., *Boston.*
*Lovett, Josiah, 2d, *Beverly.*
Low, Ariel, *Roxbury.*
Low, John J., "
*Lowell, John, "
*Lowell, William B., *Newton.*

*Mackay, John, *Boston.*
Manning, J. W., *Reading.*
*Manning, Robert, *Salem.*
Martin, Jeremiah, *Melrose.*
Mason, John, *Cambridgeport.*
*Mayhew, A. C., *Boston.*
*McIntire, Daniel, *Framingham.*
McLellan, Alexander, *Watertown.*
McTear, James, *Dedham.*
*Mellar, William, *Roxbury.*
Merriam, Galen, *West Newton.*
Merrill, S. A., *Salem.*
Millar, John L., *Boston.*
Miller, David, *South Boston.*
*Miller, Edward, *Boston.*
Mills, H. Lewis, "
*Minns, Thomas, "
Minot, G. R., *Roxbury.*
*Morgan, Thomas, *Boston.*
Moore, J. B., *Concord.*
Morse, Robert M., *Boston.*
Munroe, James, Jr., *Cambridge.*
Murray, Dennis, *Roxbury.*
Murray, James, "
Murray, Robert, *Waltham.*

*Newell, Joseph W., *Charlestown.*
Nichols, W. S., *Roxbury.*
*Nicholson, Com., (U. S. N.)
Nudd, Jacob, *Cambridgeport.*
Nugent, James, *Roxbury.*

Oliver, H. K., *Lawrence.*
Oliver, Stephen, *Lynn.*
*Oliver, William, *Dorchester.*
*Otis, Harrison G., *Boston.*
Owen, John, *Cambridge.*

Page, Thomas, *Cambridge.*
Parker, Harvey D., *Boston.*
*Parker, Isaac, "
Parker, M. S., "
*Parris, Alexander, *Pembroke.*
Parsons, Theophilus, *Cambridge.*
Payson, Samuel R., *Roxbury.*
Pearman, W. R., *Chelsea.*
*Penniman, Elisha, *Brookline.*
*Perkins, Thomas H., *Boston.*
*Pettee, Otis, *Newton.*
Phipps, Samuel, *Dorchester.*
Pierce, George W., *Malden.*
*Pond, Samuel, *Cambridgeport.*
*Pope, Rev. A. R., *Somerville.*
Porter, Z. B., *Cambridge.*
Potter, John C., *Newton.*
*Pratt, William, Jr., *Watertown.*
Prescott, Eben. C., *Boston.*
*Prescott, William, "
*Priest, John F., "
Prince, F. O., *Winchester.*
*Prince, John, *Roxbury.*
Prouty, Lorenzo, *Boston.*

Rand, Edward S., *Newburyport.*
Rand, I. P., *Boston.*
Rice, Edward E., *Dorchester.*
Rice, George W., *Roxbury.*
Rice, Henry, *Boston.*
Rice, Thomas, Jr., *Newton, L. F.*
*Richardson, Josiah, *Cambridge.*
*Robbins, Charles, *South Boston.*
*Robbins, Edward H., *Boston.*
*Rollins, Ebenezer, "
*Rowe, Joseph, *Milton.*
Ryder, Rev. W. H., *Roxbury.*

Sanborn, John, *Charlestown.*
*Savage, William, *Boston.*
*Sawyer, M. P., "
Sawyer, Timothy T., *Charlestown.*

Schimming, H., *Watertown.*
Schlegel, Adam, *Boston.*
*Seaver, Benjamin, "
Shaw, Charles B., *Dedham.*
Shaw, Lemuel, *Boston.*
Simmons, D. A., *Roxbury.*
Simpson, Michael H., *Saxonville.*
*Skinner, John, *Charlestown.*
Sleeper, J. S., *Roxbury.*
Smallwood, Thomas, *Newton.*
Smith, Edmund, *Brighton.*
Southack, George, *Roxbury.*
Spooner, Wm. H., *West Roxbury.*
Stanwood, H. B., *Boston.*
Stetson, Amos W., *Bridgewater.*
Stetson, James A., *Quincy.*
*Stevens, Isaac, *Boston.*
Stimpson, H. H, *Cambridge.*
Stone, Eliphalet, *Dedham.*
Stone, Leonard, *Watertown.*
Stone, P. R. L., *Cambridge.*
Storer, Frank H., *Boston.*
Strong, W. C., *Brighton.*
Sturtevant, Noah, *Boston.*
Sumner, William R., *Dedham.*
Swan, Daniel, *Medford.*
Sweetser, Samuel, *Woburn.*

*Taylor, Charles, *Dorchester.*
Thatcher, Thomas, Jr., *Roxbury.*
*Thaxter, Levi, *Watertown.*
Ticknor, W. D., *Roxbury.*
*Tidd, Marshall, *Woburn.*
Tolman, J. P., *Boston.*
*Towne, Orr N., "
Trautman, Martin, *Roxbury.*
Tucker, James, Jr., *Dorchester.*
Tudor, Frederic, *Boston.*
Turner, N. W., *Newton.*
Turner, R. W., *South Malden.*
Tuttle, Hugh H., *Boston.*
*Tyler, John, "

Underwood, Wm., *Boston.*
Underwood, W. J., "

Vandine, Henry, *Cambridgeport.*
Vila, James, *Boston.*
*Vose, Elijah, *Dorchester.*

*Waldron, R. R. (U. S. N.)
Wales, William, *Dorchester.*
Walsh, George, *Charlestown.*
Ward, Edward A., *Cambridge.*
Ward, Richard, *Roxbury.*
*Ward, Samuel, "
Ware, P. P. P., *Boston.*
*Warren, J. C., "
Warren, Samuel D., *Waltham.*
Washburn, Allen J., *Dorchester.*
Washburn, John, *Plymouth.*
Weld, Aaron D., *West Roxbury.*
Weld, Stephen M., " "
*Wellington, Andrew, *E. Lexington.*
Wellington, Joseph V., *Cambridge.*
*Wentworth, James, *Boston.*
*Wheelwright, Wm. W., "
Wheildon, Wm. W., *Concord.*
*White, Ferdinand, E., *Boston.*
White, George E., "
White, Nathaniel, *Quincy.*
White, Nathan H., "
*White, Stephen, *Boston.*
Whitney, Joel, *Winchester.*
Whitney, William F., *Boston.*
*Williams, Francis L., *Roxbury.*
Williams, J. Otis, *Jamaica Plain.*
Williams, Stephen, *Roxbury.*
Wilson, George, *Marblehead.*
Wilson, George W., *Malden.*
*Winchester, William P., *Boston.*
*Winship, Jonathan, *Brighton.*
Winslow, Reuben, *Roxbury.*
Worcester, Joseph E., *Cambridge.*
*Wyatt, Robert, *Boston.*

Yendell, George, *Dorchester.*
Young, William, *Fall River.*

BY-LAWS.

SECTION I.

THE OFFICERS OF THE SOCIETY.

The Officers of the Society shall consist of a President, four Vice-Presidents, a Treasurer, a Corresponding Secretary and a Recording Secretary, who shall be chosen by ballot, and shall hold their offices for one year, and until others are chosen in their stead; *provided however*, that no person shall be eligible to the office of President unless he shall have been a member for the term of three years previous.

SECTION II.

PROFESSORS.

Professors of Botany and Vegetable Physiology, of Zoölogy so far as it relates to Horticulture, and of Horticultural Chemistry shall be elected at the annual meeting of the Society:

SECTION III.

THE CHOICE OF STANDING COMMITTEES.

There shall be chosen by ballot at the annual meeting the following Standing Committees:—

An Executive Committee of . . .	5	members.
A Committee for Establishing Premiums of	5	"
" " of Finance, . . .	3	"
" " on the Library, . .	5	"
" " " Ornamental Gardening,	7	"

A Committee on			Fruits, . . .	7	members.
"	"	"	Plants and Flowers, .	7	"
"	"	"	Vegetables, . .	7	"
"	"	"	Synonyms of Fruits, .	5	"
"	"	"	Publication, . .	7	"

SECTION IV.

ANNUAL MEETING.

The annual meeting for the election of Officers, Professors and Standing Committees shall be held on the first Saturday of October, and they shall enter upon their respective duties on the first Saturday of January ensuing.

SECTION V.

NOTICE OF ELECTIONS.

At least ten days' notice shall be given by the Recording Secretary of every annual election, by publishing the same in not less than three newspapers printed in the city of Boston. The notice shall specify the time and place of said election, and the different Officers, Professors and Committees to be voted for; and unless thirteen members at least shall be present, and give in their votes, the President or presiding officer shall adjourn the said election for the term of three weeks, of which adjourned election the like notice shall be given as of the regular annual election, and the election shall then proceed, whatever may be the number of members present.

SECTION VI.

MODE OF BALLOTING.

The names of persons to be balloted for at the annual election shall be contained on one ballot, and the offices for which they are respectively nominated shall be distinctly designated. The polls shall remain open thirty minutes at least, and, when closed, the President or presiding officer shall appoint a Committee of two to assort, count, and report the number of votes given, and shall declare who are elected.

SECTION VII.

THE STATED MEETINGS.

The stated meetings of the Society shall be held on the first Saturday of January, of April, of July, and of October.

SECTION VIII.

QUORUM.

Six members, exclusive of the President or presiding officer, shall be a quorum for the transaction of business at all meetings except that of the annual election.

SECTION IX.

ORDER OF BUSINESS.

1. Reading the Records of last meeting.
2. Proposals for membership.
3. Reports of Committees.
4. Deferred and new business.
5. Elections.
6. Reading of communications.

SECTION X.

VACANCIES, HOW FILLED.

Whenever a vacancy shall occur in any of the offices of the Society it may be filled by a special election, of which two weeks' notice shall be given by the Recording Secretary in not less than three newspapers printed in the city of Boston; and if vacancies occur in the Standing Committees, they may be filled at any regular meeting of the Society.

SECTION XI.

THE PRESIDENT.

The duty of the President shall be to preside at all the meetings of the Society; to keep order; to state the business before the Society; to state and put questions which shall have been

moved, and, in case of an equal division on any question, to give the casting vote; to call for accounts and reports from all committees; to call extra meetings of the Society, when requested in writing by any five of its members, and generally to superintend the execution of such By-Laws and Regulations as the Society shall from time to time enact, not otherwise provided for.

SECTION XII.

THE VICE PRESIDENTS.

In case of the absence of the President at any meeting of the Society, it shall be the duty of the senior Vice President then present (such seniority being determined by the order in which the names appear on the Record) to take the chair, and he shall, for the time, have and exercise all the authority, privileges and power of the President; and in case neither the President or either of the Vice Presidents shall be present, the Society shall choose *viva voce* a President *pro tempore*, who shall, for the time, be invested with all the power and authority of the President.

SECTION XIII.

DUTIES OF TREASURER.

The Treasurer shall have charge of the funds of the Society, and deposit the same as soon as may be after collection in some city bank, where his account, as Treasurer, shall be kept separate and distinct, unmixed with his own or others' money; and all payments shall be made by checks. He shall pay no premiums or gratuities except upon the written order of the Chairman of the several Committees; and shall require all bills presented for payment to be approved by the competent authority. He shall have the care and custody of the seal of the Society and of the dies for the medals; and he shall cause the medals to be struck when required, and shall deliver them from time to time, as awarded. He shall have in his care and safe keeping the bonds, deeds, notes, certificates of stock, or other evidence

of property; shall make transfers, or other investments, with consent and approval of the Finance Committee; shall pay the taxes, insurance, interest on loans, &c., and keep a correct account of the disbursements and receipts of the Society. For these services he shall receive the sum of one hundred dollars per annum.

SECTION XIV.

DUTIES OF CORRESPONDING SECRETARY.

The Corresponding Secretary shall prepare all letters to be written in the name of the Society, and conduct its correspondence; he shall keep copies of the same in a book to be provided for the purpose, which shall be open to the inspection of its members at any regular meeting; he shall also receive and read all letters and papers addressed to the Society, and shall dispose of them in such manner as shall be prescribed by the By-Laws or directed by the Society. In the absence of the Recording Secretary the Corresponding Secretary shall perform his duties; and in the absence of both Secretaries the President shall appoint either a Corresponding or Recording Secretary or both, *pro tempore*.

SECTION XV.

DUTIES OF RECORDING SECRETARY.

The Recording Secretary shall give notice of all meetings of the Society, and shall regularly record the proceedings thereof in a book to be kept for that purpose. In the absence of the Corresponding Secretary he shall perform his duties.

He shall post up in the Library Room the names of all persons proposed for membership, and shall give notice to each person of his election. He shall record the election of every member, with the date thereof, and by whom proposed in a book kept for the purpose, and shall report his name and residence to the Treasurer. He shall deliver to the Committee of Publication a copy of the proceedings of each meeting whenever

requested, and shall cause to be prepared and countersigned all diplomas or certificates of membership. And for his services, as Recording Secretary, he shall receive the sum of fifty dollars annually.

SECTION XVI.

EXECUTIVE COMMITTEE.

The President and Treasurer, with three other members to be chosen at large, shall constitute this Committee. It shall be their duty to have an oversight and general supervision of the affairs of the Society, and to recommend plans for promoting its interests; to have charge of the Society's buildings, and to employ a person or persons to take care of the same. They shall have free access at all times to the records of the Society and to the books of the Treasurer, and it shall be their duty to recommend to the Society, on or before the first Saturday of December, the amount to be appropriated for premiums and gratuities the ensuing year; and also, on the first Saturday of January annually, to report the list of those that are to be offered by the respective committees with their approval or disapproval of the same.

SECTION XVII.

FINANCE COMMITTEE.

It shall be the duty of the Finance Committee to invest the funds of the Society, whenever there may be a balance in the treasury of more than *one thousand dollars* not wanted for immediate disbursement. And no transfer of any stock, bond, note or other evidence of debt standing in the name of the Society shall be made except by the Treasurer, having the written order of the Committee of Finance for that purpose. It shall also be their duty to examine and audit the Treasurer's account, and present the same to the Society on the first Saturday of January annually, with a correct statement of the property of the Corporation.

SECTION XVIII.

LIBRARY COMMITTEE.

The Committee on the Library shall have charge of all books, drawings and engravings, and shall, from time to time, procure such works as may be deemed expedient, not exceeding the amount appropriated for the purpose. They shall appoint a Librarian, whose duty it shall be to open the Library for the use of members on Saturday of each week, and at such other times as may be ordered by the Society; they shall report annually on the last Saturday in December the condition of the Library, with a list of such books and publications as may, in their opinion, be desirable to add thereto, and what measures may be necessary for its preservation and augmentation; and shall adopt and enforce regulations for the Library and Cabinet, reporting the same to the Society for approval. These regulations shall be affixed to each volume, and also posted in the Library room.

SECTION XIX.

COMMITTEE FOR ESTABLISHING PREMIUMS.

This Committee shall consist of the Chairman of the Committee on Gardens, the Chairman of the Committee on Fruits, the Chairman of the Committee on Plants and Flowers, the Chairman of the Committee on Vegetables, and one other member, who shall be chosen at the annual election. It shall be their duty to present to the Executive Committee, on or before the first Saturday of January, a list of the premiums they recommend to be offered, which, if approved, shall be signed by the President, countersigned by the Recording Secretary and published as the List of Premiums for the ensuing year.

SECTION XX.

COMMITTEES FOR AWARDING PREMIUMS AND GRATUITIES.

These Committees shall be the Committee on Gardens, the Committee on Fruits, the Committee on Plants and Flowers, and the Committee on Vegetables. Two members of either of these

Committees shall be a quorum, and if two members shall not be in attendance the member present may call to his aid such other members of the Society as he may see fit to appoint for the occasion. It shall be the duty of the said committees, except that on Gardens, to attend at the Society's Hall or the place of exhibition, one hour before the same is opened to the public; to examine the specimens exhibited and award the Premiums or Gratuities; also to attend at such other times and places as may be prescribed by the Society. They shall have power to make rules in regard to the time and manner of exhibiting specimens for premium, submitting the same to the Society for approval. It shall also be their duty to examine all new Plants, Flowers, Fruits or Vegetables presented at the exhibitions, and to report the botanical name, description and merit of the respective specimens.

It shall be the duty of the Committee on Ornamental Gardening to visit such gardens, parks, cemeteries, &c., as may be offered for premium under such rules as may be prescribed by the Society; and in making their awards of prizes the Committee shall have reference to the arrangement and laying out of such gardens, grounds, &c., as being more or less in accordance with the true principles of beauty and art; to the greater or less adaptation of the trees, shrubs and plants therein to such arrangement, and to the uses to which such are applied, as well as to their keeping and cultivation.

And annually on the last Saturday of December, the said Committees shall report to the Society the Premiums and Gratuities awarded by them.

No member of any of the Committees for awarding Premiums or Gratuities shall in any case vote or decide respecting an award for which such member may be a competitor, or therein have an interest; but in such case such member or members shall temporarily withdraw from the committee, and the vacancy for the time being shall be supplied by the remaining members; and in case all the members of any committee are competitors for any and the same premium, the award of the same shall be made by a special committee appointed for the purpose by the President, or in his absence by either of the Vice Presidents of the Society.

SECTION XXI.

COMMITTEE ON SYNONYMS OF FRUIT.

It shall be the duty of this Committee to examine all specimens of Fruits presented at the exhibitions of the Society, and to establish the names of such as are without names or incorrectly named; also to determine their proper synonyms as far as practicable. The Chairman of the Committee on Fruits shall be, *ex officio*, a member of this Committee.

SECTION XXII.

COMMITTEE OF PUBLICATION.

The Committee of Publication shall consist of one member to be chosen at large, together with the Corresponding Secretary, Recording Secretary and the Chairmen of the respective Committees on Gardens, Fruits, Flowers and Vegetables. It shall be the duty of this Committee to publish in pamphlet form so much of the proceedings of each meeting or exhibition as they may deem expedient.

SECTION XXIII.

COMMITTEE ON ORNAMENTAL GARDENING.

The Committee on Ornamental Gardening shall consist of the Chairmen of the respective Committees on Fruit, Flowers and Vegetables, and four members to be chosen at large.

SECTION XXIV.

COMMITTEE OF ARRANGEMENTS TO SUPERINTEND THE ANNUAL EXHIBITION.

There shall be an Annual Exhibition in the month of September, on such days as the Society may direct, and a Committee of Arrangements, not exceeding *thirteen members*, shall be chosen from the Standing Committees on Fruit, Flowers and Vegetables, at the stated meeting in January, and the appropriation for the expenses of the said Committee shall be made at the said meeting.

SECTION XXV.

ELECTION OF MEMBERS.

Candidates for Life and Subscription Membership may be proposed at any meeting of the Society. And no person shall be elected a member, unless his nomination shall have been duly entered on the records, and his name posted in the Library room for a term of four weeks, at least, previous to his election. All elections shall be by ballot, and three black balls shall exclude the candidate.

SECTION XXVI.

HONORARY AND CORRESPONDING MEMBERS.

The Society may, (upon recommendation of the Executive Committee) elect Honorary and Corresponding Members whenever they may deem it expedient, to each of whom the Corresponding Secretary shall transmit a Diploma or Certificate of his election, under the seal of the Society, signed by the President and countersigned by the Recording Secretary; and such members, *unless* Professors of the Society, shall not be entitled to any of the pecuniary, elective or controlling privileges of the Society.

SECTION XXVII.

LIFE MEMBERS.

The payment of twenty dollars shall constitute a Life Membership, and exempt the member from all future assessments. And any member, having once paid an admission fee, may become a Life Member by the payment of fifteen dollars in addition thereto.

SECTION XXVIII.

ADMISSION FEE AND ANNUAL ASSESSMENT.

Each member, not designated in Sections XXVI and XXVII, before he receives his Diploma or exercises the privileges of a member shall pay the sum of five dollars as an admission fee, and shall be subject afterwards to an annual assessment of two dollars.

SECTION XXIX.

PRIVILEGES OF MEMBERS.

Each member shall be entitled to the privilege of voting, of eligibility to office or appointment, of receiving a Diploma or Certificate of Membership, a copy of the published transactions of the Society, and a printed copy of the By-Laws of the Society, of using the Library, and of free admission to all the exhibitions of the Society, for himself and his family.

SECTION XXX.

DISCONTINUANCE OF MEMBERSHIP.

Any member who, after notice, shall neglect for the space of two years to pay his annual assessment, shall cease to be a member of the Society ; and the Treasurer shall erase his name from the list of members. And any member may at any time withdraw from the Society, on giving notice to the Treasurer, and paying the amount due from him to the Society.

SECTION XXXI.

EXPULSION OF MEMBERS.

If any member shall do anything to dishonor the Society, or shall place on the tables for exhibition or premium specimens bearing his name not of his own growth, with an intention to deceive ; or, for the purpose of influencing its decisions, shall make any statement to a committee, or to any member thereof, unless such statement is made in writing or furnished at the request of such committee ; or attempt in any way, directly or indirectly, to obtain the award to himself of any premium or gratuity, or shall be guilty of any breach of good faith towards the Society, he may be expelled therefrom, two thirds of the members present voting for his expulsion. But no member shall be expelled unless a written notice of the motion be served by the Secretary upon him personally, or left at his usual place of abode, at least twenty days before it is acted upon.

SECTION XXXII.

FISCAL YEAR.

The Fiscal Year shall commence on the first day of January, and all annual assessments shall be deemed and taken to be due at that time.

SECTION XXXIII.

APPROPRIATIONS.

No appropriations of money shall be made except at a stated meeting of the Society.

SECTION XXXIV.

THE OBJECT AND DISTRIBUTION OF PREMIUMS AND GRATUITIES.

Premiums may be awarded to such members as shall have essentially advanced the objects of the Society, or for the exhibition of any Fruits, Plants, Flowers or Vegetables, of their own growth or cultivation, either new in their kind, or of uncommon excellence, or for any new and successful method of cultivating any variety of Fruits, Flowers, Vegetables, Shrubs, Plants or Trees; for any of the objects recommended by the Committee on Gardens, or for any other subject connected with horticulture. Gratuities may be awarded for similar objects to any persons, but no gratuity shall be awarded for any object which shall have been entered or exhibited for a premium. Nor shall any premium be awarded for any object not worthy of the same. Nor shall any gratuity given for any object be of a larger amount than the lowest prize established for the same object.

And for the further promotion of its objects, the Society, under such rules and regulations as it shall from time to time determine, may offer a prize or prizes for the best Essays. The subject of such Essays to have reference to Horticulture, to be selected by the Committee on the Library from such as may be proposed by any member. The subject of such Essays to be

publicly announced by said Committee at least six months before the time fixed for making the award of prizes, which award shall be made by a Committee consisting of the Committee on the Library, together with the Chairmen of the Standing Committees on Ornamental Gardening, Fruits, Flowers and Vegetables, respectively, unless the Society appoint a Special Committee for the purpose.

SECTION XXXV.

DONATIONS AND BEQUESTS.

Whenever any donation or bequest shall be made to the Society for any specific object, it shall be sacredly applied to that object.

The name of the donor and the amount and description of each donation shall be registered in a book kept for the purpose.

SECTION XXXVI.

DISTRIBUTION OF SEEDS.

All donations of seeds shall be delivered to the Chairman of such Committee as the President may order, for examination and distribution, and the recipients requested from time to time to make report of their success in the cultivation of the same to the Society.

SECTION XXXVII.

AMENDMENTS TO THE BY-LAWS.

Amendments to the By-Laws may be proposed on the first Saturdays of January, of April, of July and of October, *only*. They shall be stated in writing and have two readings at the time of being proposed; if a majority of the members present vote in their favor, they shall be entered on the journal of the Society, and lie over for consideration to the next quarterly meeting or an adjournment thereof; when, if two thirds of the members present shall vote in favor of adopting such amendments, they shall become a part of the By-Laws.

SECTION XXXVIII.

OF VOTING BY PROXIES.

Voting by proxy shall not be allowed at the meetings of the Society.

SECTION XXXIX.

All the By-Laws now in operation, which conflict with this code, are hereby repealed.

OFFICERS

OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY

For 1859.

President,
JOSEPH BRECK.

Vice Presidents,
C. M. HOVEY, E. S. RAND,
EBEN. WIGHT, J. F. C. HYDE.

Treasurer,
WILLIAM R. AUSTIN.

Corresponding Secretary,
EBEN. WIGHT.

Recording Secretary,
F. LYMAN WINSHIP.

Professor of Botany and Vegetable Physiology,
JOHN LEWIS RUSSELL.

Professor of Zoology,
J. W. P. JENKS.

Professor of Horticultural Chemistry,
E. N. HORSFORD.

STANDING COMMITTEES.

Executive Committee,
The President, Chairman; the Treasurer; M. P. Wilder, S. Walker, J. S. Cabot.

For Establishing Premiums,
Chairman of Committee on Fruits, Chairman; Chairmen of Committees on Gardens, Flowers, and Vegetables; F. Lyman Winship.

On Finance,
Josiah Stickney, Chairman; Samuel Walker, J. S. Cabot.

On the Library,
C. M. Hovey, Chairman; A. Bowditch, E. S. Rand, Jr., Wm. A. Harris, R. McCleary Copeland, Librarian.

On Ornamental Gardening,
Samuel Walker, Chairman; W. R. Austin, F. L. Winship, and Chairmen of the Committees on Fruits, Flowers, and Vegetables.

On Fruits,
J. S. Cabot, Chairman; W. R. Austin, C. M. Hovey, W. C. Strong, E. A. Story, J. F. C. Hyde, Robert Manning.

On Plants and Flowers,
E. S. Rand, Jr., Chairman; George W. Pratt, A. C. Bowditch, W. J. Underwood, C. H. B. Breck, Thomas Page, T. G. Whytal.

On Vegetables,
D. T. Curtis, Chairman; P. B. Hovey, Francis Marsh, Bowen Harrington, A. Bowditch, George Everett, George F. Stone.

On Synonyms of Fruit,
M. P. Wilder, Chairman; B. V. French, Samuel Walker, C. M. Hovey, and the Chairman of the Committee on Fruits.

On Publication,
Corresponding Secretary, Chairman; Chairmen of Committees on Gardens, Fruits, Flowers, and Vegetables; Recording Secretary; C. M. Hovey.

On Arrangements for Annual Exhibition.
P. B. Hovey, J. S. Cabot, E. S. Rand, Jr., D. T. Curtis, W. R. Austin, W. J. Underwood, C. M. Hovey, A. C. Bowditch, C. H. B. Breck, J. F. C. Hyde, W. C. Strong, Geo. W. Pratt, A. Bowditch.

☞ The Annual Exhibition will be held SEPTEMBER 21, 22, 23, and 24.

32.08
M38 1859

TRANSACTIONS

OF THE

Massachusetts Horticultural Society

FOR

THE YEAR 1859.

BOSTON:
PRINTED BY HENRY W. DUTTON & SON,
Transcript Building, Congress Street.
1860.

LIBRARY of the Massachusetts
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Agricultural College

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FOR

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REPORT OF THE COM. ON ORNAMENTAL GARDENING,

For the Year 1859.

BY SAMUEL WALKER, CHAIRMAN.

The Committee on Ornamental Gardening, in the discharge of the duty devolving upon them, which has proved as agreeable to themselves as they hope it may be beneficial to the cause of Horticulture in this city and vicinity, have visited the various gardens hereinafter mentioned, observing carefully all that was to be seen at the time, and making diligent inquiry of the proprietors as to past treatment, and future intention. This duty, which is not without its attendant trouble, has been rendered most agreeable, as before intimated, by the warm and gratifying welcome with which they were everywhere received, and the unreserved freedom with which, in response to their inquiries, all desired information was communicated.

GARDEN OF FRANKLIN B. FAY, ESQ.

On the 14th of July, we visited the garden of Franklin B. Fay, Esq., in the city of Chelsea, where we were received with great kindness and hospitality. His grounds are not extensive, but their condition evidenced good management, and proclaimed high cultivation and great productiveness. Good taste and good order were everywhere exhibited, with a wise economy that looks to ends commensurate with the means.

Notwithstanding the severity of the preceding winter, which had sorely tried, and in many cases severely injured the grape vines in the vicinity of Boston, Mr. Fay had promise of an abundant crop of this delicious fruit; his vines, which were tastefully trained over open wire trellises, exhibiting a most satisfactory and tempting profusion of full and fine clusters of grapes, and presenting a picture as attractive to the eye as could well be conceived.

Having sufficiently examined this department, our attention was directed to the Flower Garden proper,

> "Where opening roses breathing sweets diffuse,
> And soft carnations shower their balmy dews;
> Where lilies smile in virgin robes of white,
> The thin undress of superficial light;
> And varied tulips show so dazzling gay,
> Blushing in bright diversities of day."

Here, we ascertained, that Mrs. Fay was the presiding genius. Here she spends the hours of early morn, arranging, planting, and cultivating, with her own hand, the floral treasures of the earth. What pity that so few of the ladies of our land imitate her example; inhaling the fresh breath of the young day, and the invigorating aroma of the newly turned loam; planting the roses of health on their cheeks, and nurturing the germs of health, and strength, and buoyancy of spirit.

Mrs. Fay is a good practical horticulturist, and we commend her example to every lady who has under her control a patch of garden ground ever so small.

WOODLAWN CEMETERY.

Our next visit was to the Woodlawn Cemetery, situated in Chelsea; and it was the desire and intention of the Committee to report in full upon the appearance and condition of these beautiful grounds, giving its history, and an extended statistical account of its roads, paths and plantations, with other items of interest; but having been disappointed in obtaining the required materials for such a description, it must be deferred until another season. The Committee, however, must give their unqualified praise for the skill, neatness and taste everywhere displayed, reflecting the utmost credit on those having the control and direction of this lovely and enchanting spot.

MR. RAND'S GARDEN, GRAPERIES AND GREENHOUSES.

On the 30th of July, your Committee visited the country seat of Edward S. Rand, Esq., at Dedham, and were entertained with the elegant hospitality characteristic of that gentleman. They were still further gratified to meet there as guests of Mr. Rand, Col. Wilder, Dr. Eben. Wight, and other eminent horticulturists.

Mr. Rand's estate consists of about nine acres of land, and it has been in his possession some half score of years; but who that knew the place at the time of his purchase would recognize it now? Upon the present site of his elegant and extensive glass houses the surface water collected into pools, and stagnated for the greater part of the year. What is now a lovely lawn, beautifully graded, and, at the time of our visit, bright with rich verdure, was then a wild, rough, uncultivated waste; and instead of the few old oaks and venerable apple trees, that then stood like lonely sentinels watching the desolate domain, the grounds now teem with choice ornamental trees and shrubs, and fruit trees of the finest varieties. It is a triumph of art and taste over wild and uncultivated nature. On the north side of the mansion we noticed some superior specimens of the Rhododendron, Azalea, Kalmia and other choice shrubs. The Rhododendrons, especially, were remarkable plants, a single specimen having produced in the spring of the present year, eighty-two trusses of flowers. All the plants were thriving, and exhibited proofs of intelligent cultivation and unremitting care. The Herbaceous plants also were numerous and well selected.

But tempting as is a stroll among the thrifty trees and over the velvet turf, we are called to inspect other noticeable things, and to admire new attractions in the greenhouse—

"Unconscious of a less propitious clime,
There blooms exotic beauty, warm and snug,
While the winds whistle and the snows descend.
The spiry myrtle, with unwithering leaf,
Shines there, and flourishes. The golden boast
Of Portugal and Western India there,
The ruddier orange, and the paler lime,
Peep through their polished foliage at the storm,
And seem to smile at what they need not fear.
All plants of every leaf, that can endure
The winter's frown, if screened from his rude bite,
Live there and prosper."

Mr. Rand's greenhouses are well stocked and fully "up with the times." Among other fine plants we especially noticed the following:—

IN FIRST GREENHOUSE.

Tritoma uvaria (rare.)	Achimenes.
Tritonia aurea, in bloom.	Cereus Peruvianus, in bud.
Gloxinias.	Euphorbia splendens (large.)

IN SECOND GREENHOUSE.

Psidium Cattleyanum, (the Guava in flower and fruit.)

ORCHID HOUSE.

Dendrobium Calceolare.	Espirito sancto lily.	
Acanthophippium, bicolor.	Cyrtanthus, inodorus.	rare bulbs.
Oncidiums, in variety.	" odorus.	
Stanhopæas "	Pentlandia miniata.	
Gloxinias.	Phœdranassa chloracea.	
Pelargonium flavum.	Griffinia hyacintha.	
" triste.	Combretum purpureum.	on back wall.
Cattleyas, in variety.	Stephanotus florabundus.	

The GRAPERY is divided into heated and cold houses; and the vines were thriving, and gave promise of an abundant crop.

There still remain, after looking over lawn, garden and greenhouses, some five or six acres well worthy of examination; but time, though said to be "made for slaves and not for freemen," yet "waits for no man," and we reluctantly leave for another visit the examination, and to a future report the description of the remainder of this estate.

Upon our return from our duties, while passing through the beautiful town of Dedham, as our eyes feasted upon its natural scenery, we could but desire and hope that others gifted with taste and fortune, would ere long bestow upon its charming fields, so wooingly spread out, art's aid, to

make them smile with blossoming flower beds and velvet lawns, or luscious fruits for autumn's garnering.

Respectfully submitted for the Committee by

SAML. WALKER, *Chairman.*

December 24th, 1859.

The Committee award the following premiums:—

To E. S. Rand, Esq., for the best kept and neatest grounds, and special success and skill in the department of flowers and ornamental gardening, the Society's first prize, . . $25 00

To Woodlawn Cemetery, for the good taste, neatness and skill in every department, the first prize, ... 20 00

To Mrs. Fay, for the good taste, industry and economy in the cultivation of flowers and fruits, a gratuity of . . . 10 00

REPORT OF THE COMMITTEE ON FLOWERS,

For the Year 1859.

BY EDWARD S. RAND, JR., CHAIRMAN.

The variable weather of the past summer has been most unfavorable to flowers in the garden; every month in the year has been marked by frost, which, though doing but little injury beyond checking the growth of plants on the high grounds, has been particularly disastrous to those gardens situated in low, cold and damp localities. It is not within the province of this report to discuss any of the many theories which have been advanced to account for the succession of cold summers which we have lately experienced. But the effects of weather so unfavorable to floral development could scarcely fail to be noticed in our weekly and monthly shows, which, notwithstanding the persevering efforts of our amateurs and gardeners, have during the past year been inferior to those of the two preceding summers. This falling off is by no means to be charged to any neglect of the Society in either of its branches, its officers or its exhibitors; never has there been greater zeal in the cause of floriculture; the premiums offered have been larger than during any former season, and the duties of the Flower Committee have been as faithfully and impartially performed as in preceding years.

To those exhibitors who, in spite of all discouragements, have persevered and done so much for the success of our weekly shows, the thanks of the Society are due; while from those who have become discouraged and fallen away, we must hope for better things in coming years.

In this connection it may not be out of place, before proceeding to a review of the season and its exhibitions, to give in brief the plan of proceedings for the coming year, referring for details, however, to the forthcoming schedule of prizes.

It is proposed to leave the prizes for greenhouse plants, or for flowers exhibited previous to the opening of the hall, as they now stand, with perhaps a few unimportant changes.

From the "Opening of the Hall," till after the Annual Exhibition, there will be a weekly show of flowers in the Society's hall, which will be free to the public.

During the past years it has been a general complaint, that gardeners bringing their flowers received no compensation; the flowers being exhibited for the benefit of the Society, and being generally so faded at the close of the exhibition as to be worthless.

It might perhaps be shown that this view is narrow and one sided, but as it is the wish of the Flower Committee to distribute the funds committed to them to the best advantage, and so as to give the greatest satisfaction consistently with merit, it is proposed to recommend to the Committee for Establishing Premiums, a schedule, by which prizes will be awarded each

Saturday for displays of Pot Plants and Cut Flowers, and for other exhibitions of merit; by this course it is hoped that a new interest will be awakened, and our exhibitions be far superior to any of former years.

In view also of the constant jealousy which exists between amateur and professional gardeners, and in the hope of promoting a better state of feeling between two classes which aim at the same high end; the subject of instituting two grades of prizes has been agitated. The one class to consist of medals or money, to be open only to the competition of amateurs; and the other to consist of prizes as now, of money, to be only open to practical gardeners and nursery men; the project is open to objections, and might, failing of its object, be productive of the very evil it is designed to cure; but it is certainly worth a trial.

The Committee must also deprecate the course pursued during the past two years, (for which they blame none but themselves,) of attempting to force the flowers to bloom in season for stated exhibitions; we may fix the prize day for carnations, for instance, on the third Saturday in July, that being about the time when carnations are in their glory; but with our variable climate, the flower is as likely to be in perfection on the second or fourth Saturdays as on the third. The time of awarding prizes will be stated in the schedule as nearly as can be determined by the experience of past years; should the season be earlier or later than the average, a corresponding change will be made, of which due notice will always be given. The Committee trust by this course, and by the *strictest adherence* to the rules of the Society, to prevent the constant disputes by which the peace of the Society and the harmony of our exhibitions have during the past year been disturbed, and to promote at the same time a better feeling among individual members.

And to this end they must ask the different exhibitors to bear in mind that the labors of the Committee are at the best thankless; they cannot see each pet flower with the eyes of its owner; but, casting aside all prejudice or partiality, must bring it to the severe standard of perfection, and, as it approaches or departs from that standard, must praise or condemn.

The Committee cannot too strongly insist upon the importance of having all choice flowers, and particularly those competing for premium, *legibly and correctly named;* the rule excluding all unnamed or improperly named flowers from premium, will be rigidly adhered to; and in this connection they would suggest to exhibitors more attention to orthography and neatness.

They would also impress upon the minds of competitors the importance of strict conformity to the *letter of the schedule;* let it be remembered that a prize for "the best twenty varieties" cannot be awarded to a stand containing twenty-one, any more than to one containing only nineteen; on this point the opinion seems to have prevailed that while it was not allowable to have less than the stated number of varieties, a few more would not disqualify the stand.

A general misunderstanding seems to have prevailed as to the interpretation of the Fifth Special Rule, namely:—

"No person shall be a competitor for more than one prize of a kind, unless the flowers exhibited in the second stand shown for premium shall be of different varieties from those in the first stand; and where two collections are offered for premium by the same exhibitor, containing the same varieties, the Committee reserve the right to reject either or both stands, and withhold the premium."

And perhaps an example will best explain its purport. There are prizes for the best twenty-five, the best fifteen. and the best ten named varieties of Hardy Perpetual Roses; suppose Rose Giant of Battles was shown in the stand of twenty-five; it could not be shown in either the stand of fifteen or ten without disqualifying those stands or all three of the stands, at the discretion of the Committee.

As this rule has to many appeared unfair, it may be stated that its object is to enable the small growers to compete with some chance of success with those who can cut flowers from large gardens.

Gratuities, as heretofore, will be awarded for exhibitions of merit, when the funds in the hands of the Committee will allow, but by the rules of the Society no flowers entered for premium can compete for gratuity; and gratuities will not be awarded unless the exhibitions are of superior merit, or disqualified from entering for premium through no fault of the exhibitor.

The Committee would also urge upon exhibitors the necessity of handing a written list of their contributions to the Chairman, especially if they wish a full notice in the printed Report; as usual, any new, rare or fine contribution will be fully noticed, but it is impossible for the Chairman, upon whom all this labor devolves, to describe particularly or even to mention each small contribution, or the flowers which compose the larger; by sending at any time within a week after each exhibition to the Chairman written lists of contributions, much trouble and cause of complaint will be avoided.

It has been the practice of many exhibitors, in competing for prizes for collections of pot plants, to offer the requisite number of plants, but of only a few species or varieties; and very often the very kinds exhibited were those for which special premiums are offered by the Society, such, for instance, as Azaleas, Ericas, &c. It is not the intention of the Committee to make any special rule, but it may be well to observe, that in awarding the prizes for collections, a preference will be given to those containing the greatest number of species, and those of a class for which no special premiums are offered.

During the past season the Rose Show was a decided success; the cool moist weather, though unfavorable to the pecuniary success of the Exhibition, was very favorable for preserving the beauty of the flowers. It is a matter of regret that so few were able to witness the show on account of a continued storm, but none could have departed dissatisfied, for a finer display of this queen of flowers was never held in our city.

The Committee would recommend the same liberal premiums for another year, as they deem it of the highest importance that such shows should be encouraged, not only for their beauty but for the high moral influence which they cannot fail to exert upon the community.

With these few preliminary remarks, let us at once proceed to a review of the season.

On the day assigned for the award of prizes for Camellias, (Saturday, January 15th), there were none exhibited, which, in the opinion of the Committee, were worthy of the prizes, which were accordingly withheld.

About the middle of February, some fine blooms were shown by Messrs. Hovey, for which a suitable gratuity was awarded; with this exception, there have been no displays of Camellias worthy of notice.

The new white seedling Camellia, for the past three years exhibited by James McTear, fully sustains its previous reputation, but the Committee were unable to award to it the prize of the Lowell gold medal, because it was only *introduced* and not *originated* by Mr. McTear.

The following is Mr. McTear's description of the flower and plant:—

E. S. Rand, Jr., Esq., *Chairman of Flower Committee*—

Seedling Camellia, No. 1. Flowers, average size; pure white, without any of that yellow tinge so common to the old kinds. In form it is very superior, the flowers being round, high, and perfect in the centre, double and imbricated. The petals are thick, smooth, broad and well rounded, without notch or serrature. The plant is a vigorous grower, with broad glossy leaves, a free bloomer, and very constant, never showing an imperfect flower.

It has been exhibited before the Massachusetts Horticultural Society for the past three years, and received favorable notice; and gardeners and amateurs who have seen it on the plant, unanimously declared it to be the finest white Camellia yet raised. Exquisite form, great substance of petal, and purity of color, are its leading characteristics. James McTear.

In regard to this Camellia great difference of opinion exists among the Committee; they have, therefore, by a majority vote, awarded a small gratuity to Mr. McTear for its introduction, leaving the future to decide upon the qualities and true merits of the flower.

Mr. Hovey has informed the Chairman of the Committee that in the Report of the Flower Committee for 1858, a mistake was made in noticing his seedling Camellia; it was reported as "first exhibition," whereas it was the fourth season; this seedling we believe has not been exhibited this year; it is a novel variety, the only imperfection being the small size of the flowers; this has been the case with all we have seen, but it may have been owing to the prevailing fault of allowing a small plant to expand too many blossoms.

Buist's seedling Camellia, "Fair Ellen," was once shown by Messrs. Hovey; the specimen flower was small and in poor condition, being a forced bloom; and from this it is unfair to write a description; the opinion of the Committee is accordingly withheld till they have an opportunity of judging from perfect specimens.

During the past season the show of Ericas has been very poor, indeed none worthy of special notice have been shown; it is a cause for regret

that so little attention is paid to the culture of a tribe of plants which, by their symmetry of form and beauty of bloom, so richly repay the care required to grow them in perfection.

The same may be said of the Epacris, with the exception of a few small but well grown plants, shown by Jonathan French.

Greenhouse Azaleas have been shown in great perfection; both the size of the plants and the profusion of flowers and fresh foliage gave indication of well-directed and skilful care. With many of the specimens it was impossible to find any fault or to suggest any improvement. The finest specimen plants have been shown by William Wales. Displays of merit and of new and rare varieties have been made by Wm. C. Strong and Messrs. Hovey.

At a meeting of the Flower Committee early in May, it was voted to hold an exhibition of two or more days at the "Opening of the Hall." This determination was carried into effect, and the Committee have reason to congratulate the Society on the complete success of the "Opening." A finer display of pot plants had never been made in our Hall; the chief difficulty was to find space for all the contributions. The following were the most noticeable displays:—

Wm. C. Strong: Fine Pelargoniums and Fuchsias.

James Nugent: Cut flowers.

Wm. Wales: Magnificent specimen Fuchsias and Rhyncospermum jasminoides.

Antane Apple: Fine pot plants, among which a night-blooming Cereus was noticeable. Fine Calceolarias.

Thomas G. Whytal: Fine Pelargoniums and Fuchsias.

Azell Bowditch & Son: Cut Roses.

Joseph Breck: A display of choice hardy plants.

Mrs. Benj. Bruce: A display of choice hardy plants.

E. G. Kelley: Magnolias.

Gustave Evers: Fuchsias, Pelargoniums, Salix cuprea tricolor, Farfugium grande.

Hovey & Co.: Pot plants, Farfugium grande, Begonia rex, Dracæna nobilis, do. terminalis.

Edward S. Rand: Lycopodiums, Pilea muscosa, Ferns in variety, Gloxinias, Maxillaria flava, Acanthophippium bicolor, Oncidium altissimum.

In view of the success of this exhibition, the Committee would recommend that, in future, the opening exhibition be continued for two or more days, and that sufficient funds be placed at their disposal to enable them to offer liberal prizes to exhibitors.

Great advance has been made the past season in Pelargoniums; the varieties have been finer and the plants better grown. The chief exhibitors have been Wm. C. Strong, Thos. G. Whytal, Messrs. Hovey, and Edward S. Rand. The Committee would advise a division of the pelargonium prize; so that one set of prizes shall be awarded for pelargoniums and another for "fancy pelargoniums," so called; or else the establishing of a new prize of equal value for the "fancy" varieties of this beautiful flower.

Fuchsias have been very superior; specimen plants of enormous size have been exhibited, and many new varieties introduced. The new varieties with a double corolla are valuable only as varieties in a collection; and the white corolla varieties seem never to have been favorites, their weak habit and slender growth unfitting them for specimen plants. The most popular varieties seem to be, Prince Arthur, Duchess of Lancaster, Gem of the Season, Glory, Fair Oriana, Venus de Medicis, Etoile de Nord, Souvenir de Chiswick, Prince of Wales, Psyche; and for winter blooming, serratifolia. The chief contributors have been William Wales, Wm. C. Strong, Thos. G. Whytal, Gustave Evers, and Edward S. Rand.

The only contributors of Calceolarias have been Gustave Evers, to whom the first prize was awarded, Antane Apple, and Messrs. Hovey; there has been no improvement, and perhaps but little can be expected.

The Shrubby Calceolarias have been frequently exhibited during the season in stands of cut flowers; they are worthy a place in every flower garden.

Cinerarias have been seldom shown; some few seedlings of little merit and a few old varieties, comprising the exhibitions. Messrs. Hovey, at the opening, exhibited the best, which, however, were only deemed worthy of the lowest prize; the others not being awarded.

For the first time and merely as an experiment, a prize was offered for Verbenas in pots, and most magnificent specimens were exhibited by Edward S. Rand; some of the plants were nearly three feet in diameter, and covered with bloom. To the satisfaction of all, it has been proved that verbenas can be grown as specimen plants. The kinds best suited for this purpose are, for large specimens, Sir Joseph Paxton, Annie, General Simpson, Celestial, Glory of America, Brilliant de Vaise, Imperatrice Elizabeth; for small specimens, Mrs. Holford, Rosy Gem, Standard Bearer, Evening Star, Vicomptesse Emylin, and the other weak-growing "eyed" varieties.

In Greenhouse Plants there has been a slow but steady improvement; the new variegated-leafed plants, now so popular in England, are becoming better known and are more generally cultivated. In Begonias and Gesnerias there has been a very decided improvement, though as yet the plants shown have been too small to be honored with the name of "specimens." At the opening of the Hall, a few fine Orchids were shown, and we know of two choice collections within a few miles of Boston; the taste for the cultivation of this extraordinary tribe of plants is far from general, though all must admire the singular beauty of the gorgeous flowers. To those who may wish to preserve these flowers *with their colors*, a thing hitherto deemed impossible, it is suggested to try a mixture of glycerine and water; this may be effectual, as it has been known to preserve the colors of fishes, which are quite as evanescent as those of plants.

A taste seems to be developing for the cultivation of Ferns and Mosses, and is deserving of every encouragement. A little more attention to these cryptogamous or flowerless plants would be rewarded by a new development of beauty; it is a field well worthy the exploration of amateurs, and one in which they could scarce fail to reap a rich harvest of delight. To

encourage this growing taste it might be expedient for the Society to offer a prize for these plants at some future time.

Though the weather was favorable for the blooming of Hyacinths in the open ground, for some unexplained reason there were none exhibited for premium, and the Committee were obliged to withhold the prize.

Pansies were very poor; this flower is by no means as frequently exhibited as a few years ago.

The same may be said of Tulips;—the tulipomania, as it was called, seems to have entirely died out. Probably the two best collections of this flower in the vicinity of Boston are those of Samuel Walker at Roxbury, and of Joseph S. Cabot at Salem.

Hawthorns never are displayed in any quantity; it is a pretty flower, but the number of varieties is small; the best have been exhibited by E. A. Story.

Hardy Azaleas are much neglected. There is no flower which so well repays the little care needed for its culture; the endless variety of colors and shades, the early period of blooming, and many other desirable qualities, should certainly recommend it to general cultivation. The chief contributors have been Gustave Evers, J. A. Kenrick and Edward S. Rand.

Of Shrubby Pæonies, we can say nothing new; the same old varieties year after year; but all good and beautiful. Can it be there is no farther room for improvement, or is the flower, (however undeservedly), becoming "old-fashioned?" Seedlings are produced, but they differ so little from the parents that they afford no variety. Can we have a *new, distinct tree pæony?*

Herbaceous Pæonies have been shown in great variety, but very few of the new varieties are superior to our old and long cultivated favorites; the best have been shown by Messrs. Hovey (new varieties) and Marshall P. Wilder, (very fine specimens of the older kinds.)

Aquilegias have been hardly exh bited; a fine new variety, evidently a hybrid from our own A. canadense, and very novel and ornamental, has been shown in single blooms by Joseph Breck.

Pinks have been better than for a number of years past; the display was not very large, but creditable to the exhibitors; could a more marked difference be obtained between varieties, it would be an improvement.

Herbaceous Plants have suffered very much from the variable season; the display has been good, but not such as we hope to see; we notice little new. The largest and choicest display has been made by Joseph Breck; fine collections have been shown by Antane Apple, Barnes & Washburn and Edward S. Rand.

The display of Roses has been magnificent. Early in the season greenhouse roses were shown in great variety by Messrs. Bowditch. The following is a list of the contributors to the rose show whose displays were remarkable for beauty or rarity:—

Hardy Perpetuals. Warren Heustis, Francis Parkman, (by far the finest collection of this class of roses,) Gustave Evers, Antane Apple, Thomas G. Whytal, M. P. Wilder, Hovey & Co., Chas. Copeland, and Wm. J. Underwood.

Hardy June Roses. Hovey & Co., Jos. Breck, M. P. Wilder, Antane Apple, and James Nugent.

Climbing Roses were not shown in variety sufficient to merit the premium.

Moss Roses. By far the finest display was made by M. P. Wilder; but the largest number of varieties was shown by Hovey & Co.; a fine stand was exhibited by Charles Copeland.

Bourbon Roses. There were but two contributors, Hovey & Co., and Wm. J. Underwood. A question arose in the Flower Committee as to the classification of the fine new rose, Gloire de Dijon, whether of right it is a tea or a Bourbon; the arguments are strong and nearly equally balanced for each side of the question. It was finally decided to admit it into the prize lists as *a Bourbon*, though the question is not as yet settled to the satisfaction of all the Committee; it will probably be allowed in prize stands of both classes.

Some beautiful bouquets of Roses were shown by Gustave Evers.

Tender Roses were shown in variety by Gustave Evers, James Murray and Martin Trautman.

The season was very severe upon both summer and autumn Phloxes, and none of any merit were shown for premium. The display of Joseph Breck has, however, been creditable; and Mr. Walker's new white seedling, "Mrs. Walker," well maintains its reputation as one of the best.

Carnations have been remarkably fine; the display has been larger than ever before, and the flowers have more nearly approached perfection. The line of division, or rather distinction, between Carnations and Picotees, has been rigidly drawn, and we trust in future there may be no confusion. The largest contributor has been B. K. Bliss, of Springfield, though his flowers suffered by comparison with others, as, on account of the early hour of opening the hall, they had to be cut more than half a day before the exhibition. Fine blooms have been exhibited by Jonathan French, Wm. J. Underwood, and Hovey & Co.

These remarks apply equally well to Picotees, which have also been far better than any shown in former years; the exhibitors were the same. We have also during the season noticed several seedlings of merit in collections of cut flowers.

In Rhododendrons there has been a great falling off; the prizes were not awarded, and the only specimens we have seen have been now and then a straggling head of bloom in a collection of cut flowers. When will our amateurs learn to appreciate the beauty of this magnificent plant? There is no shrub of its size which so richly repays the care bestowed upon it, and no garden, however small, should be without specimens.

Hollyhocks seem to be growing in favor with gardeners and amateurs, and also to be improving in beauty. It is not improbable they may take the place of the Dahlia, which for some reason has become unpopular; probably because the early frosts have cut off the plants for the last three years. The Hollyhock is seen to best advantage when shown in single

blooms; the garden is the proper place to exhibit it, on spikes. The chief contributors have been B. K. Bliss, Antane Apple, Wm. C. Strong, and F. Winship.

Balsams have been inferior, even poorer than last year, a retrograde movement by no means necessary, and very discreditable to exhibitors.

Petunias have greatly improved. A year ago the only double variety we had was the white, (P. imperialis), and now the number can scarcely be counted; some are very fine, but of course many of dull colors, poor form and inferior. Great credit is due to Martin Trautman for his new double seedlings, which are worthy of general dissemination; we regret we have not specimens, so as to describe them more fully. A very novel and beautiful single variety has been raised by Charles Copeland; it is one of the most remarkable and striking flowers we have seen, and in a mass must present a fine appearance; we regret we can give no description. The largest show of varieties has been made by Hovey & Co.

Annuals have done better than in former years; the display of Messrs. Hovey was very fine, and embraced many new varieties.

Antirrhinums have been very poor.

Asters were far better than on former years; all the stands shown for premium were so very fine that the Committee found great difficulty in awarding the prizes; and after determining the prize stands, of the ten rejected, any one was far superior to the best of last year.

Though increased and liberal premiums were offered for Stocks, none were shown worthy of the prizes; the Committee trust another year to make a more encouraging report.

Verbenas were good, though a heavy rain the day before the exhibition somewhat damaged the colors of the flowers.

A few seedlings were shown, of which a white variety with dark eye, a chance seedling of James Nugent's, somewhat in the way of Vicomtesse Emylin, bids fair to be the most valuable; the silver medal was awarded to a seedling exhibited by G. G. Hubbard.

Gloxinias. Magnificent imported varieties have been shown by Wm. C. Strong, to whom the first prize was awarded; fine cut blooms of the erect flowering varieties have also been exhibited by him during the season. The second prize was awarded to Edward S. Rand, for fine varieties, mostly new. The silver medal for the best new seedling, to the same exhibitor, for Gloxinia Mrs. Becker, a superb variety.

Gladiolus were very far superior to those of last year; a description of a few of the newer and finer varieties will be given in this Report. There is no bulb which has improved more or made more advances towards popular favor. The chief exhibitors have been Jos. Breck, Edward S. Rand, Barnes & Washburn, Messrs. Hovey, Antane Apple, and James Nugent.

Chrysanthemums were shown both in pots and in trusses; the kinds were mostly pompone, the larger varieties being less popular; the plants in pots were not well grown, and not in as profuse bloom as could have

been desired; the trusses were not large, and were lacking in evidences of skilful culture; there is much room for improvement.

Parlor bouquets have been superior; mantle bouquets very good. The greatest improvement has been in hand bouquets, which were never better.

An early frost cut off the Dahlias in many gardens, though on the day for prizes a very creditable display was made by Barnes & Washburn. The "Liliput" Dahlias, shown by M. Trautman, have attracted much attention; and by their dwarf habit, their early season of blooming, and their symmetry of form, must recommend themselves to cultivators.

The Annual Exhibition was, as in former years, in the Music Hall. The flowers had been cut off by early frosts in many gardens, so the number of contributors was far less than usual. The largest display of Cut Flowers were made by Charles Copeland, Antane Apple, Joseph Breck, Hovey & Co., Barnes & Washburn, and G. G. Hubbard.

Of Pot Plants the principal display was made by Messrs. Hovey; the variegated leafed plants in this collection attracted much attention, as did also the rarely flowered Bignonia Chamblainii, and the display of Lycopodiums.

Of Specimen Plants the display all through the season has been good; we may especially notice,

Stephanotus floribundus, by M. P. Wilder.

Rhyncospermum jasminoides, by Wm. Wales.

Maranta zebrina, by G. G. Hubbard.

Oncidium altissimum, by Edward S. Rand.

Testudinaria elephantipes, by Gustave Evers.

Farfugium grande, by Hovey & Co.

Farfugium grande, by Gustave Evers.

Cycas revoluta, by G. G. Hubbard.

The bouquets shown at the Annual Exhibition were all good, and the Committee only regret they had no more prizes at their command.

Achimenes were not shown at the Annual Exhibition, except a few varieties by Wm. C. Strong, which were not entered for premium. A few fine varieties have been exhibited during the season by Hovey & Co., but the flowers are of so delicate a substance that even the most careful transportation to the exhibition room mars their beauty, and this flower can never be shown in perfection out of the hothouse.

Having thus rapidly reviewed the Exhibitions of the season, a short notice of the new and rare plants exhibited may not be out of place:—

A semi-double Calla Æthiopica; evidently a sport, by Messrs. Bowditch; rather curious than beautiful.

Cantua bicolor, very fine specimen, by Edward S. Rand.

Hovea Coelsii, well bloomed, by Edward S. Rand.

Erica propendens tubiflora, by M. Trautman.

Azalea exquisita variegata, by Wm. C. Strong.

Cuphæa Danielsiana, by Gustave Evers; very pretty in a collection, but of little value for bloom.

From the same, Berberis Bealii;—ditto, Japonica: very pretty additions to this class of plants, and if hardy, certainly great acquisitions.

From Wm. E. Carter. Fine seedlings from Dodocatheon media; we trust to see them extensively cultivated.

Gesneria cinnabarina; a fine showy variety, first exhibited this season by Wm. C. Strong; a decided acquisition.

Joseph Breck. Fine new Sparaxis.

Edward S. Rand. Ixia viridiflora.

Passiflora Imperatrice Eugenia, by Thomas G. Whytal. Probably the best passion flower for greenhouse culture; of large size; colors, rose, purple, white and green; the blooms remaining in perfection for several days; a rampant grower and a most profuse bloomer; well worthy of general cultivation.

Passiflora Count Nesselrode; a pretty variety, but by no means as valuable as the last, from the same exhibitor.

Mrs. Benj. Bruce. Trillium grandiflorum, Hepatica, double red, Trillium erectum, and white Corydalis; also other rare hardy plants.

J. A. Kenrick. Fine Magnolias, of various kinds.

E. G. Kelly. Magnolia conspicua hybrida.

Antane Apple. New Perpetual Rose Ludwig III.

From Wm. C. Strong. Gesnera Doncklarii; a very fine variety.

Æschananthus Horsfeldii by the same, a pretty variety.

Tropæolum Randii (Mr. Breck's new seedling) sustains its reputation as the best for winter blooming and for bedding in summer.

Tropæolum Zanderii; a very dark scarlet variety, color dazzling; said to be a fine bloomer, and valuable for greenhouse blooming; exhibited by Messrs. Barnes & Washburn.

Rose George Peabody has been exhibited by Wm. C. Strong; the blooms shown have been of good color and fair size, but we are at a loss to discover the qualities which have caused this rose to be so highly praised in the Horticultural papers; we call it a very pretty rose, and this is enough to say. It is fabled, we believe, to be perfectly hardy, even in an exposure where the thermometer falls many degrees below zero; we do not say this is not so, for we have never bloomed or cultivated the rose; but *till it has proved hardy* in the neighborhood of Boston, after a fair trial, we must remain somewhat incredulous.

Seedling Delphiniums, by Francis Parkman; some very good.

Edward S. Rand. Hedychium gracile, in fine bloom; well deserving a place in every hothouse for the purity of color and delicious fragrance of its flowers.

Hovey & Co. Gloriosa Plantii; very pretty, and we believe never before exhibited.

New seedling Japan Lilies, by Hovey & Co., and M. P. Wilder, very fine.

Fine collections of native plants have been shown by Dennis Murray during the season, and at the Annual Exhibition.

A well preserved and choice collection of Fungi, by the same.

A collection of dried grasses, by the same; all these were preserved in

fine condition, and are worthy of especial mention. Collections like these should be in the possession of the Society, and we trust that at some not far distant day the Society will have the means of preserving specimens of all our native plants, as well as of the rarer exotics.

A choice display of new native plants was made at the Annual Exhibition, by the gardener to Professor Gray, of the Cambridge Botanic Garden.

Hovey & Co. Eugenia ugni; a well grown plant in fruit, the flavor of which is most delicious, somewhat partaking of that of the strawberry, pineapple and banana; young plants from cuttings fruit readily, but it will be long before the fruit or berry can be grown in any quantity.

Also from the same, a fine display of evergreens, in pots; and of cut Japan Lilies.

Also Meyenia erecta; new, very beautiful; flower, large deep purple, with a white throat, of the form of a Gloxinia; produced in great profusion over the whole plant.

Fine blooms of Stanhopea tigrina and eburnea, by Edward S. Rand.

Tritonia (Crocosmia) aurea, by the Chairman; a very fine plant, in profuse bloom; for a description, see last Report of the Flower Committee.

Of floral designs we have had but few during the past season; in general these displays are monstrosities, spoiling the beauty of the flowers and producing nothing which can be considered beautiful or tasteful; from this sweeping denunciation we must, however, except the designs of one of our lady contributors, who, by her taste in arrangement and the beauty of design and execution, has, if possible, given to the flowers more than their native beauty. Would there were others to imitate this example.

Ornothogalum nutans. Bulb small; leaf, glaucous, hairy; flower small; white produced alternately on a short stem for a long time; individual blossoms, transient; very fragrant; a very early bloomer in the greenhouse; from its abundant bloom it might be valuable for bouquets; probably hardy. We have doubts whether this bulb comes to us correctly named.

Ornothogalum Byzantium. Bulb small; leaf, dark green, with a distinct white stripe down the middle; flower stem large; flowers large, produced alternately; color, greenish white; inodorous; flower bracts, very large, embracing the bud; persistent. A showy variety, probably hardy; very fine for forcing in the greenhouse.

Ornothogalum latifolium. Bulb small; leaf large, broad, long, dark green; flower stem slender; individual flowers on long peduncles; flower bracts long, clasping; flower, whitish green, starry; very pretty in a collection, but otherwise not especially desirable.

Ornothogalum Perreyanum. A very small, delicate variety; bulb, no larger than a large pea; leaf, very narrow and slender; flower stem, long, supporting a sheath of buds; flower, about the size of a dime; yellowish white, marked with green; quite pretty; the exterior of each petal has a dark stripe through the middle; a profuse bloomer, one bulb giving two or three spikes of bloom; valuable as a variety.

Ornothogalum conicum. Bulb medium; flowers large, white, and very

beautiful; very ornamental for the greenhouse, blooming in March. Leaves radical, raceme conical, segments of perianth lanceolate, spreading. A most lovely variety. We have cut a flower spike of this variety just as the lower blooms were expanding, and preserved it in water for more than three weeks, new flowers opening each day.

All the above bloomed in the collection of the Chairman; a very large number of varieties, however, did not perfect bloom, owing to the weakness of the bulbs; another year many more may show flower. This is a lovely class of bulbs, and is too little known and cultivated; many of the above would no doubt prove hardy, certainly with a slight protection.

Sparaxis tricolor ochreleuca, by Edward S. Rand. A lovely variety; each petal red, beautifully edged with white on the exterior; interior pinkish white, with deep yellow eye. Very fine.

Vieusseuxia glaucopis, by Edward S. Rand. A lovely delicate plant of natural order Iridacae; height about one foot; flower in spathe, leaves linear; outer segments of perianth spreading, large and bearded; inner small; color pearly white, shading at base to the most vivid tints of purple, blue, black and gray; period of expansion transient, being only about twenty-four hours; blooms in the greenhouse about February. As the bulbs are very small many should be planted in a pot.

Cypella plumbea has done well in the open border; the flowers have been more numerous, and of firmer substance. (For description, see Flower Report of 1858.)

Ixia alba oculata, by Edward S. Rand. Color white, shading to yellow, with a dark chocolate eye; exterior of petals pink, yellow and white. A very fine variety.

Homeria lineata, by Edward S. Rand. Leaves very long and stiff, marked with white and green lines; bulb small; flower stem about one and a half feet long, producing from spathes single flowers of a copper color, in shape very like those of Ixia crocata; single blooms transient, but many are produced in succession, and the plants are thus in flower for a long time. Blooms in the greenhouse about the middle of February. A showy plant. The flower has a disagreeable perfume; perfects seeds in abundance, but we have not yet raised seedlings. A number of bulbs should be planted in a pot, to produce a fine effect; and as the roots grow the plants should be repotted, (taking care not to break the ball of earth, and to disturb the roots as little as possible,) for the growth of the roots is so strong as often to break the pot, if it is not large enough for their development.

Ixia viridiflora, by Edward S. Rand. A most lovely species; leaves very slender; flower spike very long, producing from ten to thirty flowers! Words cannot describe the beauty of the flower; the petals are of a peculiar vivid green; the base of each black; stamens large and yellow; the contrast is most marked; a very free bloomer, of the easiest culture. This old but charming variety has been most successfully flowered by the exhibitor; why it is so seldom met with in our greenhouses is unaccountable.

Arum Italicum, by Edward S. Rand. A pretty variety. Leaf, which is its chief beauty, long, arrow-shaped, very dark green, marked with white; flower chiefly remarkable for the large greenish white hood. A large plant would be a striking object. Of easiest culture.

Babiana rubro cyanea, by Edward S. Rand. A very handsome plant, though by no means new. Flower very brilliant, colors dark blue and dazzling crimson; leaves broad, covered with hairy down; flowers of long duration, if not exposed to too strong a light. A pot of this bulb in full bloom is one of the most splendid ornaments of the greenhouse. This beautiful bulb cannot probably be procured in this country, certainly not in any quantity. It is often imported under the name of Anamotheca azurea.

Bravoa geminiflora, by Edward S. Rand. A pretty delicate little plant; bulb and leaf somewhat resembling a tube rose; flower stalk tall, bearing bunches of twin flowers (whence the name) along the upper part of the stem pendent, from one side; flower tubular, drooping; color green at the ovary, shading from pale through the deepest orange to crimson tip. Duration of bloom about two weeks. A pretty plant, of easy culture in the greenhouse, but not remarkably showy.

Gladiolus Brenchleyensis, by William H. Spooner, Jr. A very showy variety. Color of flower darker, but far more dazzling than G. gandavensis, and free from the yellow streaks or shadings of the latter variety. Each of the two upper petals has a distinct line of white through the centre; petals lanceolate, thus rendering the flower of less perfect shape than many of the other gandavensis seedlings. Plant very strong, vigorous; spikes large, tall, displaying about twenty flowers. A peculiarity of this variety is the expanding of the flowers in quick succession, the topmost blossoms of the spike opening before the lowest have faded, thus rendering it most showy and desirable. In color it is far superior to Gandavensis, Amabilis, Don Juan, or any in the same class of color.

Gladiolus gandavensis Madam de Salliard, by Edward S. Rand. Plant of moderately vigorous growth; leaves light green; spike medium, about twelve flowered; color of unexpanded bud clear scarlet; flower, cherry shaded to light pink, and purple at the base of the petals. A pretty variety.

Gladiolus gandavensis Helene, by Messrs. Barnes and Washburn. Color pink, shading to flesh color. A very pretty showy flower, of good form and substance. Not having seen, or been favored with a description of the plant, we are unable to speak more fully.

Gladiolus gandavensis Calendulaceus, by Edward S. Rand and others. Growth vigorous; flower spikes numerous; leaves dark green; spike tall, producing about twenty flowers; very branching; color of flower pinkish orange or salmon; lower petals striped with yellowish red, shading to deep purple throat. A very showy and desirable variety, though in form of flower there are many superior.

Gladiolus gandavensis Penelope, by Joseph Breck. Habit tall, flower stem branching; spike full, producing about twenty blooms; single blossoms very large, often five inches across; petals, both inferior and superior,

very spreading and reflexed, which gives to the flower an irregular appearance; color, bright cherry, shading to flesh color, marked on three inferior petals, either with carmine or yellow; superior petals having a distinct white line through the centre. A very showy and desirable variety.

Tritoma uvaria, by William C. Strong. A most remarkable and very showy plant. Although by no means of recent introduction, yet, circumstances have latterly conspired to bring this plant into public favor in England, whence it has been imported. It was imported by the Chairman two years since, but, from some unexplained reason, he has as yet failed to flower it. The root of the plant resembles that of the New Zealand Flax (Phormium tenax); the leaves are very long, proceeding from the crown of the plant; tough and fibrous, of a dark clear green; form, the two edges raised, so as to present a channeled centre, or triangular; from the midst of the crown of leaves proceeds the flower stem, which grows three feet high, and is often an inch in diameter, very stout and erect. The flowers are produced in a whorled close head, about eight inches to a foot in length; the inflorescence begins from the bottom, and continues during a period of a fortnight, or more. The manner of flowering is similar to that of Velthemia glauca, or viridiflora. The color of the bud is dark red; as the time of expansion approaches it changes through the various shades of red or yellow; the blossoms, when fading, change to a very light yellow; the contrast between the buds, expanding and expanded flowers, is very marked. Pistil one, stamens six, three long and three short; the perfume of the flower is disagreeable, but not powerful; the plant perfects seed freely; propagated by seed and by offsets, which are freely produced from the crown of the plant. This very ornamental and desirable plant is hardy in England, with slight protection, but would not, probably, endure our severe winters. Till, however, this is proved, it might be well for those having many plants to experiment in order to ascertain whether it could be acclimated. The best treatment is, to plant out the roots in a rich border, where they will bloom about the last of August. After blooming, and before the heavy frosts, remove the plants to the greenhouse, or where they can be wintered, free from frost. A warm dry cellar might be sufficient, if not too dark. The plant seems to be well adapted for forcing in the greenhouse. In every way a desirable plant, and a great acquisition.

Tritoma glaucuscens, by P. B. Hovey. We have no means of giving a description. As far as can be judged from an observation of the plant, while on exhibition, it is of much weaker growth, and altogether inferior in beauty to T. uvaria, the color of the flowers inclining more to green.

A fine new Bourbon rose has been exhibited by William C. Strong. We regret that it was shown without a name. From appearances we should judge it a hybrid between Madam Bosanquet and Souvenir de la Malmaison, partaking of the color of the former, and the habit of the latter.

Wachendorfia thyrsiflora, by Edward S. Rand. A very pretty bulb, or rather tuber. The root is of very singular formation, and, when fresh, of a blood-red color. Leaves stiff, short, and heavily nerved, ixia-like; flowers

straw-color, not remarkably ornamental. Produced in abundance in July. Very pretty in a collection, but rarely met with.

There have been many other new and rare plants exhibited, but the Chairman has not been able to obtain good specimens for examination, or to procure information from the exhibitors as to their growth and habit.

The most constant and largest contributor, during the season, has been Antane Apple, to whom much credit is due for his constant and always creditable exhibitions. Whether it has been a prize-day or not, his stand, (one of the largest in the hall,) has always been full.

It would conduce much to the interest and success of our exhibitions could we have a little less pretended devotion to the interests of the Society, and more real interest and earnest work in its behalf. It is anything but creditable to the members to see a bare hall and rows of empty bottles, on days when there is no chance of prizes or gratuities being awarded; but on prize days to see the stands filled with flowers, not only by gardeners, who depend upon their flowers for their daily bread, (they are not to be blamed,) but by those who certainly ought to be above mere mercenary considerations.

This has not happened by chance for the last few years, but must be the result of deliberate intention. True, the Society is rich, and is able and willing to reward those who contribute to the exhibition; each year her prizes are larger than the year before, but she asks from her members a little disinterested action, a little exertion for her credit, without expecting pecuniary payment. For the past few years, both amateurs and gardeners have in this acted alike; they hold their plants and flowers in one hand and extend the other for money; thus, by action, saying, "pay us and we will exhibit, otherwise we will not."

There are a few honorable exceptions in both classes—would the exceptions were the rule. Such a spirit is not one by which the interests and usefulness of the Society can be advanced. As one of the oldest horticultural societies we have an example to set, an influence to exert, and a mighty work to do. If we fail in our duty we cannot expect to preserve our high position, or to prevent younger societies from excelling us. Honesty, fair dealing, unselfish actions and disinterested endeavors should be as highly appreciated in horticultural matters as in the daily concerns of life.

We trust another year may show that we are determined, as a Society, to make our Exhibitions such as we shall have no reason to be ashamed of; and to cause everything to be conducted in a manner which will bear investigation. We have the means before us and within us—as a Society, as individual members—we only need the will to do it.

Fine contributions have been made during the season, by James Nugent, Thomas G. Whytal, Messrs. Bowditch, William J. Underwood, Jonathan French, Martin Trautman, G. G. Hubbard, and others.

The Committee take great pleasure in presenting to the Society the following articles on the culture of several varieties of our finest ornamental

plants, and trust that the information thus given may be productive of satisfactory results:—

The Tropæolum and its Culture, by the Chairman.
Remarks on New Native Plants, by Professor Asa Gray.
Dahlias and their Culture, by Parker Barnes.
The Culture of the Verbena, by the Chairman.
Perpetual Roses, by William C. Strong.
Carnations and Picotees, by B. K. Bliss.
Our Greenhouses, by the Chairman.

THE CULTURE OF THE TROPÆOLUM.

BY THE CHAIRMAN.

This flower, from its earliest discovery and introduction, has been a popular favorite; as year by year newer varieties have been discovered, or finer seedlings raised from old favorites, it has steadily advanced in favor, till now the rich man's choicest greenhouse and the poor man's garden alike boast some of the varieties of this beautiful plant. In the limits of a short article, like the present, it will be impossible, of course, to give a detailed description, or even to mention all the varieties; many are only desirable in a collection, being of inferior beauty, while others are rare, or of difficult culture, and, therefore, found only in the greenhouses of amateurs.

To treat of all these varieties from personal experiment or observation, we regret, is, at present, not in our power; we have, therefore, borrowed any desirable facts which, in the course of our reading, we have chanced to meet, and occasionally have copied the description of a variety which we had never seen, or were unable to procure. The materials for this little article have been collected from many sources during the past three years, and, though much may be omitted which might be profitable, the writer trusts some advantage may be gained—some information afforded.

The name Tropæolum is derived from the Greek "tropaion," or the Latin "tropæum," a trophy, from the fancied resemblance of the large round leaves to a buckler, and, as some still more fancifully assert, from the spur of the flower resembling a helmet. Botanically speaking, the flower is thus described: Natural order, Tropæolaceæ. This order contains only the genus Tropæolum and a small annual plant called Magellena porrifolium; all natives of South America. Linnæan—class, Octandria; order, Monogynia.

Tropæolum, Linnæus.—Calyx five cleft, somewhat two lipped; the upper lip or lobe furnished with a spur; petals, usually five, unequal, sometimes two or more. Stamens, eight, entirely free. Ovaries, three, connate. Ovules, solitary, suspended; style, undivided; stigma, three lobed; carpels, three—each one seeded; seeds extra albuminous; radicle small.

The different varieties of Tropæolum divide themselves into three distinct classes. First—Those with bulbous, or rather tuberous roots, such as Tropæolum azureum and others. Second—Those with large, round leaves and large showy, often coarse, flowers, as the various varieties of Tropæolum majus. Third—Those with small, delicate, regularly formed flowers, with smaller leaves, and of more climbing rather than trailing habit, such as T. Lobbianum, &c. We are aware that this division is imperfect; that some varieties partake of the characteristics of more than one class, and that others are with difficulty included in any of the three; and to any one acquainted with all the different varieties the difficulty of classification will be at once apparent. We shall, therefore, only attempt this general division; leaving a particular description to be given when we treat of each variety. The soil to be used in the culture of the Tropæolum is, for the bulbous varieties, leaf-mould and peat, with an admixture of fine sand; for the other classes, an addition of more sand is to be advised, as care must be taken not to enrich the soil too highly, for in a rich soil with plenty of room to develop the roots, the plants are apt to run all to leaves. This may be prevented in two ways, either by giving a poor soil, or by allowing the roots to become "pot-bound," and nourishing the plant by slight waterings of liquid manure; they generally fail to give satisfaction if the soil is close, heavy, and binding. All the varieties, we believe, are readily propagated by cuttings, and many produce seed in abundance. Some succeed better if allowed to trail on the ground, others are so delicate as to need constant attention and careful training. Some are hardy in England, though to our knowledge none have ever been able to survive our severe winters in the open ground, or protected in frames. All the varieties are of the most rapid growth, and most are free flowerers; none are destitute of some beauty, while the greater number are remarkable for the combinations of dazzling colors which they afford. The prevailing color is yellow in its different shades; next, red; then dark; and lastly, a most extraordinary fact which puzzled the botanists, a beautiful blue. It had been asserted and argued, with great show of reason, that a flower, of which all the known varieties, or the general types, were of red, yellow, or cognate colors, could, by no possibility, be found related to a plant with blue flowers, or could there be a blue flowering plant in the same class. The discovery of a blue Tropæolum, in 1844, completely refuted this theory. In the treatment of the Tropæolum it is essential for the good health of the plants that they should enjoy plenty of light and air; without this they cannot fail to become sickly or unsightly from faded leaves and small flowers. A supply of water should be given with the syringe, over head, occasionally, which will conduce to the vigor of the plant, and destroy the red spider which sometimes attacks the leaves. The plant, in all its varieties, is remarkably free from disease or insects; we have occasionally had the more delicate varieties troubled by green fly, and by mealy bug, but very little care will prevent this. The chief danger seems to lie in the decaying of the roots by over watering when in growth, or by not withholding water when they are in a state of rest; these remarks, of course, apply only

to the bulbous varieties. Sometimes we have known the roots of the summer bloooming varieties to be attacked by the root aphis, but this is unfrequent. The foliage is of too fiery a taste to be subject to the attacks of insects.

With these few remarks we will proceed to the description of the different varieties, noting any peculiarity in the habits of each, or any peculiar mode of culture which may be best adapted to its nature.

The oldest and best known variety is Tropæolum majus—the common Nasturtium of our gardens—a native of Peru, but very early introduced. This occurs in a variety of colors, and under a variety of names. The colors are chiefly red, yellow, very dark, and all the intermediate shades; or, again, red upon yellow in spots, shadings, stripes, or bands, or yellow upon red or dark ground. Scarce two flowers, unless self colored, will be found alike, and there is no prettier sight than a flower bed filled with this variety—the various colored flowers contrasting finely with the large round leaves. At any seed store varieties may be obtained; and by a little care in planting the seeds a beautiful effect may be produced. This species is of the easiest culture, and will grow almost without care; it is well adapted for covering rockwork, or any unsightly spot; producing from the latter part of June until killed by the frost, a constant succession of brilliant flowers and ornamental foliage. All the varieties of this species are annual, and are propagated either by seeds which are freely produced, or by cuttings of half-ripened wood which root freely in sand.

Tropæolum majus atrosanguineum—is only a very fine variety, as its name implies, of the above. It was introduced into England as early as the year 1684; the required soil is light and rich; it flowers freely; increased by seeds and cuttings.

Tropæolum Scheurianum—A variety of T. majus first exhibited by the writer at the weekly shows of the Society. Habit, strong, growth very vigorous, but only adapted for trailing on the ground, as, indeed, are most of the varieties of T. majus; a free bloomer; leaves large; flower of delicate straw color, penciled with dark blood-red lines. This variety is well adapted for the greenhouse; cuttings struck in August will bloom freely after January. The flowers sometimes become nearly white, and are then very ornamental. Seeds freely, though plants from cuttings bloom earlier. A desirable variety. Will do well in any soil, but blooms better where there is an admixture of sand.

It would be useless to attempt a description of the varieties of Tropæolum majus; so constantly do they change, that each year, as newer seedings are produced, the older are forgotten and lost. All are well worthy of cultivation, and some of the varieties should be in every garden. We have seen a double variety, but it was evidently a mere sport which was only propagated and preserved as a curiosity in a collection; the colors were confused, and the blossom destitute of beauty.

We pass now to the varieties of Tropæolum minus; being those comprised in our last class, and seemingly only reduced specimens of Tropæolum majus. We have seen it stated that this variety was introduced before

Tropæolum majus, but we believe the best authorities agree on the latter being the oldest known variety; be this as it may, both were known in Europe at a very early period. The plants of Tropæolum minus, and its varieties, may always be distinguished from those of Tropæolum majus, and its varieties, by the leaves; in the former, the nerves of the leaves always end in a point, which is never the case with those of the latter.

Tropæolum Lobbianum—sometimes called T. peltophorum; one of the very finest, first collected by Mr. Lobb in Columbia; a rampant grower, and free flowerer in the greenhouse; color of flowers, orange scarlet. The temperature of the house to bloom it well should be kept about 50 degrees; a slight watering of liquid manure should occasionally be given. It does not succeed well with us in the open border; our summers are too short, and the plants are apt to be nipped by the frost just as they are fully set with flower buds; strikes freely from cuttings, and produces seed sparingly. Most of our fine new varieties are probably hybrids between this and the following.

Tropæolum pulcherrimum.—Like the last a rampant grower; color of flowers, bright yellow, with starry rays of orange scarlet at the base of the petal; a free flowerer in the greenhouse. Culture like the last.

Tropæolum Smithii.—A brilliant red variety, a native of the high mountains of Columbia; treat as T. majus; will bloom well in the open border.

Tropæolum Lilly Schmidt.

Tropæolum Caroline Schmidt.—Very fine varieties for greenhouse flowering, but somewhat superseded by newer seedlings; colors red and very dark, sometimes veined with yellow.

Tropæolum bicolorum.—A variety not yet introduced; the color of the flower is said to be, upper petals bright yellow; lower, brilliant scarlet. We regret our inability to say more concerning such a superb variety.

Tropæolum crenatiflorum.—Introduced from Peru, and nearly allied to T. Lobbianum; flowers yellow, segments of calyx and spur tipped with green, and two upper petals, with a few purple streaks; flowers large; an abundant bloomer.

Tropæolum Zanderii.—A very fine variety has been exhibited during the past year under this name; a vigorous grower; flowers of medium size, of a dazzling scarlet. We have not flowered this variety, but from the blooms shown judge it to be worthy of general cultivation.

Tropæolum Barnesii.—A very dark variety; seedling by the well known florist Parker Barnes, of Dorchester; the color is too dark for beauty, but it is most desirable as a variety, and forms a pleasing contrast with light colored flowers.

Tropæolum Breckii.—Raised by Joseph Breck; a pretty petit variety, in color resembling Lobbianum, though perhaps darker; the petals are often finely fringed; a very free flowerer, but unless afforded plenty of pot-room it ceases to grow after it begins to bloom; roots freely from cuttings, and seeds abundantly. Blooms very freely in the garden and is desirable for bedding.

Tropæolum Randii.—A very fine seedling of Mr. Breck's; a very vigorous grower; the writer has, in one summer, had one side of a large greenhouse covered by a small plant. This variety has the desirable property of blooming equally well as a border plant in the summer, and in the greenhouse in winter. The color of the flower is brilliant yellow; the base of each petal marked with a round black spot; the flowers are often veined with purplish red, sometimes very deeply, and, from a large plant, often dozens of blossoms, all of different shades, may be gathered; this is particularly the case in the greenhouse; in the border the colors are more constant. This is probably from its abundant flowers and free habit the most popular variety, of its color, among gardeners for bouquet purposes, and, though of comparatively recent introduction, is very widely disseminated. Propagated by cuttings; seeds sparingly.

Tropæolum minus coccineum.—A very pretty variety in the style of T. Breckii, already described; raised easily from seed.

We now come to describe a few varieties which we are at a loss how to class. Some of them, to our knowledge, have never been shown at our exhibitions, or grown in this neighborhood; while others, more common, partake of the characteristics of more than one of the above classes.

Tropæolum umbellatum.—Flowers umbellate, of a rich orange red color, tinged with green; a very free flowerer; a native of Peru.

Tropæolum spes.—A curious variety; plant covered with a glaucous hue; leaves, many cleft, rotate; flowers greenish white, of no beauty. Introduced about 1847; very rare.

T. Moretzianum.—A very showy variety, properly belongs to the class of T. majus; color orange and yellow; the seeds came from Cumana in 1840; the root is inclined to be bulbous, and after the plant is killed by the frost may be taken up and preserved, like a dahlia, till another season. Propagated by cuttings. A pretty and by no means rare variety.

Tropæolum perigrinum, aduncum or canariense.—Commonly known as canary bird flower. A very lovely and popular variety; grows about ten feet high, and blooms well if the soil is not too rich. It is commonly cultivated as a summer border plant, but will bloom well in the greenhouse. To this end plants should be struck during the summer, and grown with plenty of light and air; let the soil be loam, and well rotted manure, with a little sand; do not give the roots too much pot-room, and water occasionally with liquid manure. Plants may also be raised from seed, but they flower less freely than those struck from cuttings. This lovely variety is too well known to need description.

Tropæolum polyphyllum.—Imported from Valparaiso; hardy in England without protection; this variety forms large underground tubers, by dividing which the plant is increased, each eye forming a plant. It should be planted about four inches deep in a border, with dry sandy loam, about the first of June; the flowers will be produced about August. The leaves are divided into numerous narrow segments; the flowers are of a light orange hue, and are produced on long footstalks beyond the leaves; it is a free flowerer, but, we believe, is rarely cultivated in this country; seeds sparingly.

Tropæolum speciosum.—Flower about half an inch in diameter, of brilliant scarlet crimson; a native of Patagonia; rare; seems to be allied to Tropæolum pentaphyllum.

Tropæolum tuberosum.—A beautiful variety, introduced about 1834 from Texas. It does not succeed in a greenhouse, but should be planted in the open border. Unfortunately it is much given to running to leaves, the flowers being sparingly produced. Leaves five lobed; flower stalk long; calyx orange red color, five cleft; petals, deep orange, striped with brown at the base.

Tropæolum edule.—Not a very strong growing species; introduced into England from Chili about the year 1841; very much resembles in foliage T. polyphyllum; flower bud greenish; flower bright orange. The bulb should be well covered with soil, and the roots allowed plenty of pot-room; water should be given moderately. A very pretty variety.

Tropæolum pentaphyllum.—A beautiful variety, but not generally grown in this country. We have seldom seen plants in a healthy state; the fault seems to be watering after the bulb has become dormant. As a general rule, it may be observed that the bulb of this variety during the season of rest cannot be kept too dry, and the same remark applies to most of the bulbous Tropæolums. During the growing season the bulb is often injured by too much water; keep the root moist, and syringe the foliage freely, as thus the health of the plant will be preserved. Properly grown there is no prettier plant than this; its foliage is particularly neat, and its flowers beautiful. The bulb should have plenty of pot-room, the soil to consist of loam, peat, and a little sand. The plant is too well known to need a description. For this, and the varieties to be described, the greenhouse is the only place; they are too delicate for the border. This variety differs from all others in its fruit, which is a *juicy berry;* it has by some been separated from Tropæolum under the name of Chymocarpus pentaphyllus.

Tropæolum bracheseras.—A common variety in England, but rare with us. The plant and bulb resembles T. tricolorum so closely that, till the flower expands, it is impossible to distinguish the two varieties. The flower is a bright yellow, with the base of the back petals delicately penciled with reddish purple. It was introduced from Valparaiso into England about the year 1837; in its native country it is very common. We are surprised this beautiful variety is so little cultivated in this country. A bulb planted in a pot with one of T. tricolorum presents a beautiful contrast of flowers. Propagated by cuttings. Soil, leaf mould, enriched by well rotted manure, and a little sand.

Tropæolum tricolorum.—Probably the best known of any of the bulbous varieties, and extensively cultivated. The beauty of its foliage, as well as its elegant growth and profusion of bloom, always render it most attractive. Though long cultivated it has never become common; a few plants will be found in every large collection, but it is never to be procured in any quantity in this country. This beautiful variety was introduced into England, from Valparaiso, in 1828; the bulb will attain a large size, though

those generally seen are seldom larger than a pigeon's egg—the largest we have ever seen is one in our own possession, which is about the size of a hen's egg. The growth of the plant is very delicate; the stem very weak, requiring daily attention in training; it attains the height of 12 to 14 feet, but is oftener grown twined round a balloon trellis, which mode displays the flowers and foliage to great advantage. A singular fact is noticeable in the stem of this plant; where it proceeds from the bulb it is very fine and hair-like, but several feet from the bulb the stem is often very stout; this is to be especially observed in those portions where the leaves are large and healthy, which at once gives us the solution of the mystery. Does not the plant derive the greater part of its nourishment through the leaves? It seems impossible that all can be derived through the delicate thread of the stem, and a plant often twelve feet high, with thousands of leaves and flowers, all be sustained by the sustenance which passes through so small a medium. The question is one deserving attention. The plant is propagated both by cuttings and seeds. The former is the most reliable, but is liable to failure on account of the delicate nature of the plant; the cuttings in a majority of cases damping off. The soil to be employed in striking cuttings should be *pure sand*, of the kind known as silver sand. Seed is freely produced, but the outer covering is so hard that it generally fails to vegetate; the only way to secure success is to carefully remove this hard shell, when the seed will easily germinate. This may seem doing violence to nature, but it is a method which often has to be resorted to with seeds of a tough integument. The general theory in the cultivation of all species of bulbs is, that whatever tends to increase the size and vigor of the bulb will have a corresponding effect on the growth of foliage and size of flower. It has been discovered that roots are developed more rapidly, and the size of the bulbs greatly increased, if, instead of planting the bulb in the soil, the base is merely covered with earth and all the upper portion left exposed. Great care must, however, be taken to avoid overwatering, which is fatal to the health of the plant. The plants do not require very large pots, for the growth of the root is not very luxuriant; but care must be taken to prevent the pots from being exposed to the direct rays of the sun, and thus becoming heated, for the effect of too much heat at the root is at once apparent in yellow foliage and sickly flowers. We have seen it recommended, and the idea is an excellent one, to place the pots containing the bulbs in larger pots, the space between the two being filled with river sand, which is kept constantly watered, and imparts a coolness and moisture to the soil in which the plants are growing, which renders watering almost unnecessary. The above remarks will apply equally well to all the bulbous Tropæolums, but especially to T. pentaphyllum, bracheseras, azureum, and Jarrattii. This variety (T. tricolorum) is often attacked by red spider and green aphis, but a little careful syringing and smoking will at once remove these pests. The flower is too well known to need particular description. The soil should be leaf mould, with a little sand; we have noticed that small bits of peat seemed to impart additional vigor; the earth should never be allowed to become hard and sodden.

Tropæolum Jarrattii.—Sometimes imported under the high sounding name of Tropæolum tricolorum grandiflorum. This variety, which was first introduced some twenty-five years ago from Santiago, very much resembles T. tricolorum in growth and color of flowers. The differences are these ; the flowers are larger than those of T. tricolorum, of a more brilliant color, with more yellow on the outside ; the two upper petals are marked with brown ; the habit of the plant is more robust. It is a profuse flowerer, and is easily propagated from cuttings. Soil, peat and loam. The remarks made in reference to T. tricolorum apply to this variety. It is not uncommonly grown under the name of T. tricolorum.

Tropæolum azureum. We now come to describe by far the most beautiful of all the Tropæolums. Before its introduction the floral world was in a state of fever from the descriptions of travellers, and not a little scepticism was manifested as to its existence; many, as before mentioned, considering it an impossibility, and regarding the reports as "travellers' stories." It was successfully introduced about fifteen years ago, but as yet is rarely seen in our greenhouses. The writer, a few years ago, had a fine specimen, which was unfortunately lost by watering during the season of rest. The bulbs are very impatient of moisture, and too much care cannot be taken to keep them perfectly dry during the summer.

As the variety is as yet rare a short description may not be uninteresting. Its habit is very slender ; and the plant may be easily distinguished from the other varieties by its leaves ; these are small, and almost equally separated into five segments, which are extremely narrow linear lanceolate, of a pale green tint. The flowers are of peculiar form ; the five petals are of about the same size, and radiate very regularly. Color, when first expanded, deep violet, resembling, when about a day expanded, the color of our well-known pedate violet (V. pedata,) and when old changing to whitish. The calyx is short and green. The flowers exhale a delightful perfume. The flowers are produced from the axils of the leaves in great profusion. The proper soil is a coarse sandy loam, with a little leaf mould and coarse peat. The plant will readily strike from cuttings of the half-ripened wood, inserted in pure sand, but we have noticed that not one half of the cuttings, though they grow vigorously, produce a bulb of any appreciable size. The plant also seeds sparingly, and probably with care the seed would vegetate. The chief difficulty is to preserve the bulb during the summer, and to regulate the moisture in winter. Our specimens bloomed well, treated as recommended for T. tricolorum ; the position in the greenhouse was in the warmest end, on a side shelf, close to the glass. This lovely plant is worthy of every care and attention.

Thus have we briefly and imperfectly given a hasty sketch of some of the more important varieties of the Tropæolum. It is a flower which will well repay every exertion to bloom it in perfection, and may be one of the principal ornaments of our greenhouses. There is no more beautiful sight than specimen plants of any of the bulbous varieties, and we bespeak for these a little more devotion and careful culture. A fine plant occupies little more room than a poor one, and requires but a trifle more care.

It may be well to observe, that in growing the delicate bulbous varieties of the Tropæolum, *daily attention to training* is indispensable; a day's neglect may ruin the plant, for the growth is so rapid that the slender branches, if not directed, often become intertwisted; it is then very difficult, if not impossible, to separate them without injury to the plant.

Trusting that the foregoing hints may not be without profit to some, this little article is given to the public.

NOTICES OF NEW NATIVE PLANTS,

Introduced to our Gardens from the Cambridge Botanic Garden.

BY PROFESSOR ASA GRAY.

To E. S. Rand, Jr., Esq., Chairman of the Flower Committee of the Massachusetts Horticultural Society—

I accede with pleasure to your request that I should furnish a brief notice of some of the plants which have been introduced into cultivation by the Botanic Garden of Harvard University since it has been under my charge. I restrict myself, of course, to those which are of floricultural interest, and naturally to species indigenous to the United States, since I am to speak only of plants here first brought into cultivation. The principal exception is that of a South American Passion-flower.

1. Tacsonia lævis, Benth. This handsome species was described by Bentham several years ago, from a collection made by Mr. Hartweg. Only dried specimens were taken to England. It was found in woods near Guayaquil. Seeds which prove to be of this species occurred in a valuable parcel of seeds which were collected in the Quitensian Andes, and at their western base, by Captain Joseph P. Couthouy, who kindly communicated them to this establishment. Plants came into flower in our conservatory early last summer, and continued to blossom freely until late in autumn. Although described as a *Tacsonia*, this species is so exactly intermediate between that tubular-flowered genus and the true Passion-flowers, that it might almost equally well be referred to either. It has the tube of a Tacsonia, but the tube is not longer than the spreading part of the blossom. The latter consists of ten narrow lobes, between one and two inches in length, and of that peculiar, lively, purplish-pink hue, now so fashionable under the name of *mauve* color. The crown is remarkably short and inconspicuous; the column very slender. The smooth and light green foliage is very neat; and the plant grows freely and climbs extensively at our ordinary summer temperature. But its great merits are that it blossoms far more copiously than most other Passion-flowers, keeps its flowers open longer, usually for two full days, and continues to bloom the whole summer long. If not strikingly showy, it is a particularly elegant species.

2. Berberis trifoliata, Moricand. This Barberry, a native of the southern and western part of Texas, will not bear our northern winters;

and as a greenhouse plant it is rather curious than ornamental. Its holly-like leaves are not pinnate, as in the Mahonias, nor simple and clustered, as in true Barberries, but ternate. We raised it from seeds sent by Mr. Lindheimer, of New Braunfels, a well known botanical collector, to whom and to Mr. Charles Wight, we are indebted for most of the following plants:—

3. Erysimum Arkansanum, Nutt. A biennial, with orange yellow flowers much larger than those of *E. Perofskianum*, and not unlike those of the Wall-flower in a wild state. Nuttall discovered it in his Arkansas journey long ago. It was described in the year 1838, and first brought into cultivation here, about ten years ago, from seeds supplied by Mr. Sullivant of Columbus, Ohio. Darby Plains, in the central part of Ohio, is the most northern and eastern known station of this species.

4. Vesicaria Engelmannii, (figured in Gray's Genera Illustrated,) V. angustifolia, V. recurvata, and V. stenophylla, Gray, are rather pretty cruciferous plants from Texas, which were cultivated here for several years. All but *V. angustifolia*, the least valuable, are now lost from this establishment.

5. Callirrhöe pedata, Gray. This beautiful biennial or annual (according to circumstances) was first raised at this establishment, from Texan seeds furnished by Mr. Lindheimer. Communicated to M. Vilmorin and to other correspondents, it has now established its place in European gardens. It is easily raised as a biennial; the young plants require the protection of a frame through the winter, and, planted in the spring, they produce all summer long a succession of their rich, *mauve*-crimson blossoms. In a conservatory they are still more showy, and the plants often attain the height of seven or eight feet. It is the handsomest of malvaceous plants.

6. Callirrhöe digitata, Nutt.—the *Nuttallia digitata* of Barton—had once been raised at Philadelphia from seeds collected in Arkansas by Nuttall himself, but it was soon lost. It was cultivated here several years ago, from Texan seeds, and young plants were distributed, some of which may yet survive. It is a perennial, with a tuberous root. The flowers resemble those of the preceding species, although larger, and the truncate summit of the broadly wedge-shaped petals is somewhat fringed or toothed. But the flowers, although individually showy, are so few that this species will never compete with *C. pedata*. The same may be said of *Callirrhöe Papaver*, of the Southern United States—also now lost from our garden, but still preserved in some collections abroad.

6. Callirrhöe involucrata, Nuttall, which on our western plains extends north as far as to the Platte River, is a prostrate species, with a conspicuous external calyx, the petals as large as those of the preceding species, but not so brightly colored. It has the advantage of being perfectly hardy in this latitude. Its root acquires the size and the shape of a turnip, and is filled with a pure starch, mingled with a sweet mucilage. It is both pleasant-tasted and nutritious, and is one of the esculent roots used by the Indians, and called *navet de prairie* by the hunters and trappers.—Among other new malvaceous plants of our wide western regions which

have been here cultivated, the most noteworthy are two low shrubby species, viz.:—

7. Pavonia Wightii, Gray, of Texas, raised from Wight's and Lindheimer's seeds, which produces a long succession of bright and light rose-colored, widely expanded flowers, each lasting but a single day; and,

7. Malvaviscus Drummondii, Torrey and Gray, also Texan,—with the peculiar, upright, and convolute petals of the genus, of the deepest scarlet color.

8. Ungnadia speciosa, of Endlichen. A shrub, from 3 to 20 feet high in Texas, where it is called *Spanish Buckeye*, bearing flowers somewhat resembling those of the Horse Chestnut, but less showy, and in much smaller clusters, and large spherical seeds like those of the Sweet Buckeye, while the leaves are not unlike those of a Hickory. Not being hardy at the North, this shrub here possesses only a botanical interest, as uniting the Horse Chestnuts to the Soapberry family.

9. Sophora speciosa, Benth. Among the considerable number of Leguminous species of Texas, and of our southwestern frontiers, which we have succeeded in raising, this is the only one of much floricultural interest, and this, unfortunately, we can have only as a greenhouse plant. On the coast of Texas it forms a tree, about thirty feet high, with a hard and heavy wood of a yellow color, there called *lignum vitæ*, and used for dyeing, the pinnate leaves bright shining, thick, and evergreen; the flowers, which have not yet been produced here, form a large cluster, like those of the American *Wistaria*, about as large. According to Mr. Lindheimer, they are blue, and sweet-scented, exhaling nearly the fragrance of violets.

10. Nevinsa Alabamensis, Gray. This elegant flowering shrub, recently discovered in Alabama by the Rev. R. D. Nevins, was described only last summer, in the Memoirs of the American Academy of Arts and Sciences. Strong plants received last autumn from its native station, near Tuscaloosa, may be expected to blossom next spring. The shrub grows with long and recurved branches, like those of *Philadelphus grandiflorus;* its foliage resembles that of the well-known *Kerria Japonica*, but the blossoms are white. Judging from dried specimens and from the account of the discoverer, the flowers are very copious and elegant. They are of a novel character for the Spiræa tribe, to which the shrub belongs, their beauty lying wholly in the tufts of slender white stamens, borne on an open and foliaceous calyx, and without any petals. There is reason to hope that this new shrub may endure the winter even of New England, in which case it will be an important acquisition.

11. Œnothera Jamesii, Torrey and Gray. Described from specimens collected by Dr. Edwin James in Long's Expedition to the Rocky Mountains, and brought into cultivation from Texan seeds collected by Lindheimer and Wight. This is a tall and stout biennial, four to six feet high, with the aspect of the common Evening Primrose, (*Œ. biennis*,) except that the flowers are much larger, the corolla being about five inches in diameter. It has propagated itself by self-sowing, in this Botanic Garden, for several years. But when left to itself, it does not flower before the middle of

September, and in this climate it may fail to ripen seed in an unfavorable autumn. When well grown, it is a stately and showy species. *Œ. triloba*, of Nuttall, with its delicate white flowers, forming a cone of pods close to the ground in autumn, was apparently introduced into the garden here by Nuttall himself, from seed which he gathered in his Arkansas journey, and has generally propagated itself as a biennial. It is hardly ornamental enough for general cultivation. This, however, cannot be said of the perennial *Œ. Missouriensis*, or *macrocarpa*, which bears a succession of very large yellow blossoms the whole summer long. But this species was introduced to the English gardens, by seeds from Bradbury or Nuttall, more than forty years ago. For some unexplained reason it never sets fruit here, so it can be propagated only by division. It is a hardy perennial. A Texan variety of the same species, with hoary leaves, longer stems, rather smaller petals and pods with smaller wings, which we have cultivated for several years, does fruit freely, and is also readily multiplied from slips. But it will not stand the winter in the open air. *Œ. glauca*, of the Alleghany Mountains, being the finest of the day-flowering Œnotheras, a perfectly hardy perennial, would claim a place in this list, only it was earlier cultivated in England, from Fraser's collections.

12. Gaura Lindheimeri, Engelm. and Gray,—a Texan species, now well established in the gardens, and the most showy of the genus—we owe to Mr. Lindheimer, who sent the seeds through Dr. Engelmann, about fifteen years ago. Its perennial root is capable of surviving our ordinary winters in the open ground; but it is safer to house it. Turned out in early summer it produces a constant succession of its neat white blossoms until checked by severe frosts.

13. Mentzelia or Bartonia ornata, a native of the Upper Missouri River, and so well described in 1818 by Nuttall in his *Genera*, was raised and figured in England as well as in Philadelphia, about forty years ago; but was soon lost. It was here reintroduced, five or six years ago, by seeds collected by Col. Fremont, and flowered for two or three generations. It perished here during the past year; but other establishments, to which we have supplied seed, may still have preserved it. Though difficult to manage it deserves attention, as one of the most showy indigenous plants. The pure white flowers open about an hour before sunset for two or three days in succession; they are very large, (the petals about three inches in length,) spreading in an open bell-shaped form, and, with the numerous long stamens, resembling those of a Cereus or other cactus. The nearly related *M.* (*Bartonia*) *nuda* is very similar, except that the flowers are only half as large. It was here raised for one or two seasons, from seeds collected in Texas by Mr Lindheimer. *M.* (*Bartonia*) *lævicaulis*, from the interior of Oregon, was here raised for a single season, also, from seeds communicated by Col. Fremont. It differs from the last in having pale yellow blossoms, opening early in the afternoon, in full sunshine. We trust these three species will soon be recovered to our gardens, for they are very ornamental, as well as botanically interesting.

14. Cucurbita perennis and C. digitata, Gray, two squashes of our Southwestern borders, which are remarkable for their perennial and large fleshy roots, claim only a botanical interest, their fruit being inedible, and their habit coarse, like their congeners. But *C. digitata* may be fancied for its elegantly incised and somewhat mottled foliage. It runs on the ground, to the length of even thirty or forty feet in a season, rooting at the joints.

15. Megacystis Californica, another perennial of this order, of which we fortunately raised a plant from seed collected by Mr. Thurber, has no beauty or known use to recommend it. It is remarkable solely for the gigantic size which its root attains in California and Oregon, far surpassing the Bryony of Europe in this respect. This root is said to grow to the size of a flour-barrel.

16. Cereus giganteus, Engelm. Through Dr. Engelmann's attention to the Cactus family, the Botanic Garden has been able to accumulate a good number of the species which form so prominent a feature of the vegetation of our drier Western and Southwestern regions. They are nearly all small-flowered species, and none of them are likely to interest the florist. But mention should be made of the *Giant Cereus* of the lower part of the Gila River, and in Sonora, so familiar from the accounts of it published by Col. Emory, Mr. Bartlett, and others,—so remarkable for its size and aspect, attaining, as it does, in an otherwise nearly treeless region, the height of from twenty to sixty feet! The pulp of its large and red fruit, in which the seeds are imbedded as in a fig, is collected by the Pinos Indians, preserved by drying, and used for food. A quantity of this material, collected by Mr. Thurber, when attached to the Mexican Boundary Survey, and presented to our garden and to other establishments, furnished an abundance of seeds, which have freely vegetated; but the seedlings and young plants, both here and in the European gardens, are very apt to perish, probably from overwatering. We still have plants, however, five or six years old; also, a single individual, now almost a foot high, which was brought alive by an officer of the army (whose name, unfortunately, is not recorded) to the late Professor Bailey of West Point, who presented it to the Cambridge Botanic Garden.

As seeds of the great Composite family are readily collected and easy to germinate, it has naturally happened that many of the new species of our Western and Southern regions have been here cultivated, and some valuable acquisitions made, especially of garden annuals. Many of these have unfortunately been lost. Of those which still survive here, or in gar dens supplied by this establishment, only a few of the finer species can here be enumerated, omitting those of botanical rather than horticultural interest.

17. Eupatorium Berlandieri (also *ageratifolium*,) D. C., of Southern Texas. A greenhouse species, one of the prettier of those white-flowered Corymbose species which adorn our conservatories in winter.

18. Aphanostephus ramosissimus, D. C., of Texas. A handsome, daisy-like annual, more elegant than *A. Arkansanus* of the same region,

which was first raised in Europe, but soon lost; afterwards reintroduced from this establishment.

19. Gutierrezia gymnospermoides, Gray, from what is now called Arizonia. A tall annual or biennial, with clusters of pure golden-yellow flowers, highly commended by the French florists. Our season is hardly long enough for it.

20. Lindheimera Texana, Gray. An annual from Texas, of humble growth, producing a long succession of neat flower-heads, having only four or five golden-yellow rays, and much resembling a simple flower at first view. Here and in France it is quite elegant, but it is insignificant in England in the open air, for want of sufficient light and heat.

21. Coreopsis coronata, Hook. This charming annual, from Texas, was first raised in England, from Drummond's seeds, and figured in the Botanical Magazine, but was lost at once. Through seeds from Wight and Lindheimer, raised here, it is now well established in cultivation. It considerably resembles *C. Drummondi;* but the rays are more extensively and more delicately marked with brownish purple lines and blotches.

22. Palafoxia Hookeriana, Torr. & Gray. This is the finest species of the genus, much more showy than *P. Texana*, but broad ray-florets, of a rich rose-color. This and

23. Gaillardia amblyodon, Gray, also from Texas, perhaps the most elegant of the Gaillardias, have been lost from this garden, but have probably been preserved in some of the European Botanic Gardens. A good figure of this *Gaillardia* is published in the third volume of the Memoirs of the American Academy of Arts and Sciences.

24. Agassiria suavis, Gray & Engelm. The head of flowers is much like that of a *Gaillardia*, but is raised on a naked stalk a foot or two in height, the leaves being all near the ground, and the yellow and purple rays are small. The principal attraction of the plant is its fragrance, which is exactly that of the Heliotrope. The plant is a perennial, requiring to be housed for the winter; but producing a succession of flowers in the open ground throughout the summer.

25. Amblyolepis setigera, D. C., is a Texan annual, also allied to *Gaillardia*, with pale-green leaves, beset with scattered long hairs, and showy, light-yellow flowers. It is well worthy of general cultivation as a garden annual.

26. Pentstemon Torreyi, Benth. A native of New Mexico and the Northwestern part of Texas, nearly related to the old *Pentstemon barbatus* of the gardens, and probably only a geographical variety of it. It is a taller and more branching plant, from four to six feet high, with long wand-like panicles crowded with deeper-colored blossoms, which in some plants are of the brightest scarlet red. This fine plant is now well established in the gardens, and is hardy, but precarious in this climate.

27. Pentstemon Wightii and P. baccharifolius of Hooker are two New Mexican species, of less beauty than the preceding, being rather few-flowered, which were raised from seed gathered by Mr. Wight; but both

flowered in Kew Gardens before they did in Cambridge, and were figured in the Botanical Magazine.

28. Pentstemon grandiflorus, Nutt., a native of the Northern and Western part of Missouri, where Mr. Nuttall long ago discovered it, also of Iowa, &c. This and the equally showy *P. glaber*, (which was raised in England thirty years ago, but soon lost) we owe to Mr. Sprague, the artist, who accompanied Audubon in his excursion up the Missouri in the year 183–, and collected the seed from which the present stock has been derived. *P. grandiflorus* has very smooth and glaucous foliage, and large, lilac-purple flowers, little inferior in size to those of *P. Cobæa*, but far superior in color. It is perhaps one of the most elegant species of this showy genus, and has the advantage of being perfectly hardy in New England.

29. Salvia Rœmeriana, Schule, a showy, scarlet-flowered species, which has lately been figured in the Botanical Magazine, under the name of *S. porphyrata*, was first cultivated here from Texan seeds, supplied by Wight and Lindheimer. The flowers are more showy and larger than those of *S. coccinea*, but not so numerous.

30. Macromeria viridiflora, D. C., raised from seeds collected in Arizonia by Mr. Wight, is rather curious than showy, being a sort of Gromwell, with a long corolla, an inch and a half in length, white, tinged with green.

31. Datura meteloides, D. C. This we likewise owe to Mr. Wight, who sent seeds from New Mexico in 1851, since which it has been a conspicuous ornament of our garden at the close of summer. Brought forward in spring under glass, it might be made to blossom at midsummer, when it would continue until arrested by frost. From seeds distributed from this establishment this species is cultivated in England and France, under the name of *D. Wightii*, and highly prized, as well it may be; for its flowers are larger, at least much wider, and better colored than those of *D. Metel*, while the stems are low and spreading, the light-green herbage only slightly fœtid, and the blossoms sweet-scented. They are five or six inches broad at the expanded summit, and seven or eight inches in length; and the margin bears only five very slender teeth.

A considerable number of Apetalous and Indigenous plants deserve to be noticed in their turn, but this communication has already reached an undue length, as I fear.

DAHLIAS AND THEIR TREATMENT.

BY PARKER BARNES.

The early history of this popular flower is involved in some obscurity; but from the mass of matter we have fortunately been able to cull a few facts, which it may be useful to present before proceeding to the more practical part of our article.

The first account we have of this flower is its mention in Hernandez' History of Mexico, printed in 1651, in Madrid, in which two species are figured under the name of "Acocotli;" both are single flowers,—one probably Dahlia crocata, the other variabilis.

An Italian work on the Natural History of Mexico was published in Rome about the same time, in which two dahlias—one single, the other double—were figured under the name "Cocoxochitl." In these works the roots are described as tuberous, and of a bitter taste.

The next notice is by Thiery Menonville, who was sent to Mexico by the French government, in 1787, to procure the cochineal insect and its plant. He saw some Dahlias near Guaxaca, and described them as having large aster-like *double* flowers, stems as tall as a man, and leaves like an elder.

In 1789, Dahlia variabilis was discovered in a wild state in Mexico by Humboldt, and sent by him to Madrid. Seeds were the same year sent from Madrid to the Marchioness of Bute.

A seedling, semi-double, flowered in 1790, and was figured in Icones Plantarum, when the genus was named Dahlia, in honor of Andrew Dahl, a Swedish botanist, and the plant (now Dahlia variabilis) called Dahlia pinnata. In the same work, Dahlia rosea (now lost) and Dahlia coccinea were afterwards figured.

Plants and seeds were sent to Paris in 1802, with the idea they might be edible. The seeds sent to the Marchioness of Bute, though vegetating, never produced any results of importance, and the plants were soon lost.

In 1802, an English gardener, named Fraser, obtained seed from Madrid which produced orange flowers, (probably seedlings from Dahlia coccinea.)

In the autumn of 1803, Dahlia rosea flowered in England. In 1804 a paper was published in the "Annales d'Histoire Naturelle," by M. Thouin, in which he suggests propagation by division of the roots, and allowing them to rest during the winter, growing the roots in rich soil during the summer.

In 1804, Lady Holland sent seeds of Dahlia variabilis and Dahlia rosea and coccinea from Madrid to England. These were sown in hotbeds, and a few flowers were produced; these, by much care and nursing, ripened a few seeds in 1805 (the first ever produced in England), which produced plants the next year. All the experiments thus far had been made in the greenhouse. In 1807 Dahlias were first grown in the open ground. About this time an attempt was made to change the name from Dahlia to Georgina. About 1808 it was cultivated around Paris, and fine seedlings raised. Fine varieties were raised in Berlin soon after; and in 1814 there were many fine double flowers in cultivation, and since that time the plant has been successfully cultivated in England. We are unable to state at what time this plant was introduced to our gardens, but till after the year 1830 it was not grown to any extent, if an inhabitant of our gardens.

Every florist has been at some period attacked by the Dahlia fever, and the plant has in the past been a great favorite. It must, from its many desirable qualities, always be popular, though at the present time it seems to be a little out of favor.

Dahlias are of every color and all shades, *except blue*, which has never been obtained. In estimating a modern dahlia, form, color, and size are the requisites;—in form, the flower should be round, without a centre, the large flowerets at the edge gradually growing smaller. The color should be bright and clear. The size should be up to the average of dahlias, of the variety of that exhibited.

It may be useful to briefly mention a few of the original dahlias.

Dahlia variabilis, or superflua, the origin of all the dahlias. It is a "red dish purple" flower, with eight florets, and a yellow disk; the seedlings are single, double, and semi-double, and of every color and shade, pink, crimson, scarlet, buff, salmon, yellow and white. A native of Mexico.

Dahlia coccinea. Color dull red; the seedlings only vary to orange or yellow, and this variety does not hybridize with the last described.

Dahlia crocata. Flowers brilliant scarlet, with yellow disk.

Dahlia Barkerii. Allied to D. glabrata, below described.

Dahlia excelsa. Often grows 30 feet high, tall, without branches, but with broad leaves. Native of Mexico. Anemone-flowered.

Dahlia glabrata. Flowers lilac, semi-double. A native of Mexico.

Dahlia Cervantesii. Flower orange-scarlet.

Dahlia astrantæflora. The parent of the anemone-flowered dahlias.

Dahlia scapigera. A beautiful little white variety, with thick, fleshy flowers, one to two feet high. Native of Mexico. No double flowers have, we believe, been raised from this variety.

There are other varieties of the original Dahlia which might be described, but they are not in cultivation, so we proceed with our subject, the treatment of our modern dahlia.

Soil.

My experience is in favor of a compost made of old black garden mould, stiff loam, and sandy peaty loam; trench the bed twenty inches deep; the finest flowers are produced with the least trouble in a rich soil, for the Dahlia is a gross feeder, though not fond of unrotted manure. Any garden soil will grow this flower, but by a little attention to the soil a great improvement in both the quality and quantity of the bloom will be produced.

Plants and Planting.

My experience has shown that plants struck from cuttings produce the most perfect flowers, the blooms being less inclined to become semi-double than those borne on plants grown from tubers; the latter often produce very coarse flowers, and are always of a stronger growth. The cuttings should not be rooted so early as to become pot-bound before the time arrives to turn them into the border; if the roots are strong and numerous enough to keep the ball of earth from breaking, it will be sufficient. By the autumn, the tubers become large and solid enough to keep well during the winter, and in the spring the eyes break more freely.

The plants should be set three feet apart between the rows, and two and a half feet in the rows. *Shade of every kind is injurious to the plants.*

The ground being prepared by trenching as above directed, choose straight spruce poles (which are the strongest and most durable) and stake the whole bed; let the poles be seven and a half feet long, and be driven into the ground one and a half feet; then plant your dahlias, one plant to each stake; the plant should be set about one inch lower than the surface of earth in the pot, if the plants have been struck from cuttings; if from tubers, place the crown of the tuber two inches below the surface. Dahlias may be planted from the first of May to July; those latest planted give the *best* flowers, though, of course, do not afford as early or profuse a display. *Dahlias may flower too early*, and the blooms be burned up by the hot summer's sun; then before autumn the plant is exhausted, and no good flowers are produced. A dahlia should not begin to flower before the latter part of August, for cool nights are essential to the production of fine flowers.

The plants should be tied to the poles with soft bass matting, and should be carefully and frequently examined for this purpose; a high wind will often break the plant and destroy its symmetry and beauty.

Pruning.

No arbitrary rule can be prescribed; the plant should never be allowed to become bushy with small branches, nor should severe pruning at any time be resorted to. Prune little but often, is a good rule. Varieties differ as to the amount of pruning required, and experience alone will teach the amount beneficial to each.

Some varieties produce too many flower-buds, and consequently all the flowers are small or imperfect; when the buds are small many may be removed to advantage; after they have attained any growth, however, this operation is of little benefit; in this, experience must also be the teacher.

Insects.

There are many insects injurious both to the stem, leaf, and flower of the dahlia; I shall, however, only mention a few of those which prove most destructive in our climate.

The grasshoppers (Gryllidæ ———) do much damage to the blooms by eating off the lips of the petals. To remove them by hand is difficult and wearisome; the best remedy is to turn some turkeys or domestic fowls into the dahlia plantation about the middle of August.

The striped squash bug (Galeruca vittata), and a small oval bug (Pentatoma ———), destroy many flowers; they live in the bloom and eat holes in the floral rays, seldom leaving the flower till it is ruined. The remedies for these latter are unknown, for the flower is destroyed by the application of lime, &c. Fine blooms, or those which promise well, may be protected by a covering of gauze or lace; but this is too expensive and laborious an operation to be performed in a large plantation.

Watering

Is never beneficial to the plants, not even in dry weather, unless persistently continued, for it has a tendency to bring the roots to the surface, and

when the water is withheld the plants suffer from the change. If the dahlias are to be watered, the ground should be mulched with coarse litter of some kind, or sea-weed; this will better retain the moisture, and will prevent the earth around the plants from becoming hardened. Syringing the tops with soft water is of advantage; let it always be done in the evening; care should be taken *not* to use very cold water.

Selecting Blooms for Exhibition.

This is often a difficult task to the most experienced, and often one or more points have to be sacrificed. To my mind, diversity of color should be a matter of attention, with, of course, a due regard to form and size. A stand of flowers of similar colors never shows as well as one where some attention has been given to a selection of dissimilar varieties. The general rule, as before laid down, is, form before anything; next, color, which should be bright and clear; and, lastly, size. The blooms should never be handled or exposed to rough usage more than necessary, as the dead appearance thus produced can never be removed.

Fancy Dahlias.

These have lately become popular, as many very fine varieties have been produced. Miss Church, Loveliness, Lady Popham, and many others are quite as fine as any of the selfs; they are perfect gems, and creditable to any stand of show blooms.

It seems to me that the best effect is produced when the two classes are exhibited in the same stand; the contrast is pleasing, and each cause the other to appear to greater advantage.

Degeneration.

A double flower being a monstrosity, there is always more or less tendency to revert to the primal state. With dahlias this disposition is particularly marked. It has always been my practice to keep a good old variety, if possible, till a better of its color or shade was produced; yet among a collection of 250 not more than five, new five years ago, can now be found.

A striped or mottled or other fancy dahlia will often produce self-colored flowers, and all, both fancies and selfs, will in time so far run out as to produce single self-colored flowers.

Seedlings

Are grown largely by florists in England and on the Continent. Much attention has been given to hybridization during the last fifty years; but, as in other plants, many of the seedlings are worthless, and most not superior to those already grown. About six very fine seedlings in a thousand is considered good success.

These fine dahlias, when brought to this country, are often worthless, producing poor flowers on account of the difference of the climate.

In this country very few good seedlings have been produced, probably because there is less attention paid to hybridization, and no encouragement is offered by our Horticultural Societies.

Wintering.

Take up the tubers soon after the frost has killed the tops; do not separate them, but pack them away in a dry cellar in dry loam, out of reach of the frost, till wanted for propagation in the spring.

In taking a retrospective view of the dahlia fancy we find a gradual improvement up to the present time. Of late years many of the finest varieties have been produced, and a really fine seedling commands as high a price now as at any former period.

The dahlia is eminently worthy of attention, on account of its cheapness, its ease of cultivation, and the rich display it makes in the garden when other flowers are gone.

The following is a list of the best now in cultivation:—

Augusta Louisa. Color light scarlet, brilliant, well formed flower, and constant. Height, 5 feet. 1854.

Annie, (Rawlings.) Color beautiful lilac, fine form, good bloomer, fine habit. Height, 4 feet. 1854.

Admiral, (Barnes.) Color lilac, fine form and substance, good habit,—a good old variety. Height, 4 feet. 1853.

Bessie, (Turner.) Color deep golden yellow,—a compact, well-formed flower; good habit. Height, 4 feet. 1855.

Beauty of the Grove, (Barnes.) Color yellow, tipped with rosy pink; good outline, high centre. Height, 4 feet. 1854.

Constellation. Color bright rosy pink, with violet rays; very constant. Height, 6 feet. 1859.

Cossack, (Fellows.) Color bright carmine; an excellent variety. Height, 5 feet. 1854.

Cockatoo. Deep purple, with white tips; fine. Height, 4 feet. 1854.

Comet. A fine mottled and striped variety; fine form,—early. Height, 4 feet. 1854.

Duchess of Wellington, (Turner.) Pale cream color; full and fine form; one of the best dwarfs. Height, 2 feet. 1856.

Duchess of Beaufort, (Bush.) Blush-white, tipped and edged with dark purple; a full and constant flower,—one of the finest. Height, 4 feet. 1857.

Duc de Malakoff. Deep carmine red, free bloomer; form and habit very fine. Height, 5 feet. 1857.

Goldfinder, (Turner.) Deep yellow; form of flower very fine and constant,—one of the best. Height, 3 feet. 1859.

General Bosquet. Deep red,—one of the best. Height, 4 feet. 1859.

King of Yellows, (Collier.) Clear yellow, very good. 1852.

Lord Fielding. Color nearly black; large and good flower,—*the best dark*. Height, 6 feet. 1859.

Loveliness. Pure white, edged with rich purple,—a good variety. Height, 6 feet. 1859.

Lord Palmerston, (Holmes.) Deep scarlet,—a fine show flower. Height, 4 feet. 1857.

Lady Popham, (Turner.) Color white, slightly tipped with rose; superior form. Height, 5 feet. 1858.

Lollipop. (Holmes.) Color salmon buff; good form and habit. Height, 5 feet. 1857.

Mons. Paul L'Abbe Choirdines. A fine crimson, form good, constant and reliable,—one of the best dwarfs. Height, 3 feet. 1858.

Miss Pressley. Color white, heavily edged with dark purple,—constant; a new and pleasing variety. Height, 6 feet. 1859.

Miss Watts. Pure white, good form and habit, the best of its color. Height, 5 feet. 1859.

Mrs. Church, (Church.) Color deep yellow, tipped with lake; a full sized flower; constant,—one of the best. Height, 3 feet. 1859.

Mrs. Rawlings, (Rawlings.) A blush-white, of good form and habit. Height, 5 feet. 1855.

Mrs. Edwards. Color clear lilac, shaded with buff; a good flower. Height, 4 feet. 1858.

Mrs. B. Coutts. Fawn color; quite novel. Height, 5 feet. 1856.

M. Gardier. Deep rosy red; fine form. Height, 5 feet. 1855.

Oblata. Pure white; fine form and habit. Height, 5 feet. 1859.

Othello. Deep, clear purple; good habit and form. Height, 4 feet. 1857.

Prince Imperial. Color violet crimson, shaded with rose; good form and habit. Height, 4 feet. 1858.

Prince Frederick William. Crimson; good flower,—always perfect. Height, 2½ feet. 1859.

Preeminent. Color purple, full size; fine form and habit. Height, 4 feet. 1855.

Princess Rea. Color bright rose; a distinct and superb flower. Height, 6 feet. 1856.

Roland. White, heavily tipped with dark purple; fine form and good habit. Height, 4 feet. 1857.

Standard Bearer, (Alexander.) A very close-formed flower, beautifully tipped with white, of excellent habit. Height, 6 feet. 1859.

Sir Henry Havelock. Bright orange scarlet; a fine show flower. Height, 4 feet. 1859.

Summit of Perfection. Deep crimson maroon, of the best form. Height, 4 feet. 1859.

Touchstone. Light purple; form and habit good. Height, 5 feet. 1858.

Yellow Beauty. A fine yellow. Height, 4 feet. 1857.

Queen of the East, (Barnes.) Clear blush; a flower of good size and substance. Height, 3 feet. 1851.

Queen of Yellows, (Harrison.) A good flower; form good. Height, 6 feet. 1854.

Village Gem, (Green.) Color clear white, edged with rich, rosy crimson,—always an attractive and desirable flower; habit good. Height, 5 feet. 1859.

The above-mentioned varieties can all be recommmended as fine flowers; many more might be added almost as fine, but a choice selection can be obtained by choosing colors from those above enumerated.

THE CULTURE OF THE VERBENA.*

BY THE CHAIRMAN.

There are few plants which lend more beauty to the flower garden in summer, or enliven the greenhouse in the winter and early spring months in a greater degree than the verbena. From the variety of colors, the rapidity of propagation, the little care needed to bloom the plant in perfection and the abundance of blossoms, it is and always must remain a universal favorite.

In addition to these advantages the facility with which new varieties are raised from seed render it a favorite with the amateur; and in no collection do we fail to find the verbena in some of its many varieties.

It is a difficult task to prescribe the culture of a plant so well known, and which will grow and flourish under such a variety of circumstances and in such different situations. As every one has grown verbenas, each has his own peculiar mode of treatment, if indeed a flower requiring so little care can be said to have peculiar treatment.

In writing of a plant from which seedlings are produced with such ease, and which sports into such an infinite variety of colors and shades, we cannot be too careful in expressing a decided opinion. Every year new seedlings are "brought out," and latterly the varieties have so multiplied that it is very difficult to choose those really worthy of cultivation: the favorite of this spring may, after a year's trial, be cast aside as worthless, for it may not be found worthy of general cultivation, or better varieties may have been originated.

Yet we must use due care in this rejection of old varieties and well proved kinds, for the newer kinds often prove inferior to those discarded. We have yet to learn that a new plant is not always desirable, and to restrain the passion for novelty which too often runs away with our better judgment. No one who has watched for the last few years the progress of floriculture need tax his memory to call to mind the many new plants with high-sounding names and fulsome recommendations, which a few months' trial has shown to be perfectly worthless.

But to return to our subject. The name verbena is of Latin origin, being derived from the word "herba," which signifies any plant of a low

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* The substance of this article was published a few years since in "The Magazine of Horticulture;" it attracted some attention, as some of the ideas were new. It is now published with additions and such emendations as the last two years have shown to be necessary.

spreading growth; thus, "herba,—herbena,—verbena." Its original meaning was any sacred branch or herb; as, for instance; of cypress, rose, laurel, olive, or myrtle, as we learn from Livy and Celsus. These verbenæ or branches were used at solemn ceremonies or at religious festivals. The priests, whose duty it was to declare peace or war, to form or sever leagues or alliances, wore these verbenæ twined around their heads, and thence were sometimes styled Verbenarii. They were also borne by suppliants who sued for protection, as we learn from Cicero, and placed on altars or wreathed around them, as we find them thus mentioned in Ovid and Terence. The use of "verbena" in sickness, as possessing cooling properties, is mentioned by Celsus, but whether in reference to this particular plant is very doubtful.

The word "verbena," as commonly translated, signifies Vervain, of which we have many species; and it is not a little singular that a plant having so simple an English synonym should so universally retain the Latin or botanical name; the old Latin name for vervain, however, is Verbenaca and not Verbena.

The Vervains common with us are the Verbena hastata and Verbena urticifolia; the former is a tall, showy plant, blooming in August, quite plenty by our roadsides; a perennial. The latter far more common, being found about fences, hedges, and heaps of refuse, and of little beauty. The flowers of the former are of a dark purple color, and imbricate; of the latter, white, small, and not imbricate.

Our Verbena was introduced into England from Buenos Ayres, where it is indigenous, by Mr. Hugh Cumming, an ardent lover of nature, about the year 1825.

The first, and for a long time the only variety cultivated, was Verbena Melindres or chamædrifolia; but it now appears lost among the new and superior kinds which have been raised from seed. In form it has been repeatedly excelled, but its creeping habit and abundance of bloom must always recommend it, though we doubt, if at the present time it can be obtained at any of our greenhouses, and probably few of our younger cultivators have ever seen this once popular variety. The color is scarlet, and though perhaps equalled can never be excelled. Many other earlier varieties might be mentioned, but, although interesting, it would too much extend the limits of this article.

Verbena multifida, with lilac purple flowers, was introduced from Peru; Verbena Tweediana, with rose crimson flowers, from Brazil, and from these and a few other varieties and seedlings, have sprung all the numerous varieties, many hundred in number, which may be found in extensive collections. The credit of introducing this plant into the United States belongs to Robert Buist of Philadelphia; about the year 1835, from seed received from Buenos Ayres, he raised the first white, pink and crimson verbenas. The plant soon became generally known, and was everywhere a favorite; in the floral world it caused quite an excitement, and the original kinds were soon surpassed in every respect by newer seminal varieties.

The culture of the verbena is very simple; the plants will *bloom* with very little care, but to grow them in perfection requires attention; of thousands of plants of any size, scarcely one is a fine specimen. Let us, beginning in early spring, trace the plant, as generally grown, and then see how much a little care might increase its beauty.

About the first of February cuttings of the young shoots are taken from old plants; in a sandy loam a few weeks, and sometimes a few days, will suffice to root them; they are then potted off into thumb pots, and, if placed near the glass, will soon show a terminal flower. As soon as the season is sufficiently advanced these young plants are bedded out, and, in favorable seasons, soon form a conspicuous feature in the flower garden, continuing to bloom till long after the early frosts. About the first or middle of September, the gardener begins to repot his plants for winter, and the common practice is to take a runner which has rooted well at a joint, and, after suitable pruning, to pot it for winter blooming and propagation; others, again, take up the old roots, while others, by sinking pots in their verbena bed, about midsummer, allowed the runners to root directly in the pots; the pots being taken up and the connection with the mother plant cut, the young plant receives no injury or check. But this mode is very objectionable, for two reasons; first, the loam in the pots is apt to become sour and sodden, and again, earth worms often enter the pots, and prove injurious during the winter. The plants are housed, and, for a long time, produce no flowers, and are anything but ornamental. Soon after the new year, they begin to grow vigorously, but are allowed to trail carelessly over the staging, or droop from some hanging shelf; no care or attention is bestowed upon them, except to give the daily supply of water.

The days grow towards spring; cuttings are again taken off, the same process is repeated year after year, and thus one of our loveliest flowers, which, with a little care, might be one of the greatest attractions and ornaments of our greenhouses, is never seen in perfection, except in the garden.

That this is the fact is to be deplored, yet the remedy is simple; by beginning about midsummer we may have verbenas in bloom as well during the winter as the spring months. About the first of August, or earlier, *cuttings* should be taken from desirable varieties; in a fortnight they will be ready to transplant; pot them in thumb pots, and repot as soon as the roots touch the sides of the pot; keep them in vigorous growth by affording plenty of light and air, being careful they never suffer from want of water; pinch off the leading shoots to cause all axillary buds to break, and in no case allow them to bloom; train the plant in any form desired, but be careful not to permit it to grow too straggling. When other plants are housed, remove your verbenas to some warm shelf, where they may have the morning sun, and on every favorable day give plenty of air, and fumigate well to destroy green aphis. Your plants will soon be in luxuriant bloom, long before those potted in the common way have shown a bud, and will continue to afford an abundance of flowers until late in the spring. To grow verbenas well in the house in summer is far easier; they may be bloomed in pots of any size, and trained in almost any form, the only requisites be-

ing plenty of light and air, careful pruning, and means to destroy aphis and keep off mildew. One of the prettiest modes of growing this plant for show in the greenhouse and exhibition, is to pot three or five young cuttings in a large round seed pan; pinch in the leading shoots to cause the side buds to break, and train all lateral branches towards the outer rim of the pan, tying them to slender twigs; do not allow any shoot to be more than six or eight inches in height, nor permit your plants to bloom till they are a mass of foliage; they will, when in bloom, be fine specimens, and very ornamental. This is probably the best way to grow new varieties for exhibition, as they show to the best advantage, and the habit of the plant is more easily determined.

One great fault in growing verbenas is the practice of watering too copiously; the plant, as originally found, grows on dry hills, and damp not only produces mildew, but rots the roots, and thus destroys or produces disease in the plant.

The proper soil for verbenas is two parts of loam, two of leaf mould, with an admixture of sand, and in this we have found them grow and bloom luxuriantly. But it may be said the verbena is naturally a trailing or running plant! Why not allow it, in the greenhouse, to ramble as in the garden? Could we have a *bed* of them in the house, this might perhaps be a fine way to show them to advantage, provided, always, the bed could be near the glass, and sufficient air be afforded, but very few can devote so much space to one flower. The object in a greenhouse is to have as large a variety of choice plants as can be grown in so small a compass, and to ensure beauty, both in plant and flower, should also be the aim of the gardener; but how often is this done? In almost every greenhouse we see the plants crowded together, bare stemmed, tall, awkward specimens, or trailing over the pots with long leafless branches; they may be in bloom, but the flowers are produced on the ends or tops of the tall, ill-pruned branches, and are never seen to advantage. It is to remedy and avoid this evil that we recommend growing specimen plants, even if to do so, we have to discard many varieties or species. A couple of hundred well-grown specimens are far more beautiful than as many thousand stalky, straggling, tall-drawn plants. The rule should be applied to all plants, though many smile at adapting it to verbenas, heliotropes, and other plants which will bloom with little care. The whole resolves itself into the old school-boy maxim, "What is worth doing at all, is worth doing well."

Now, we are not sanguine enough to hope to work an immediate change in our gardeners' mode of growing plants, but may we not expect a gradual one? Let us look, for instance, at many of the pot plants exhibited at the weekly and annual shows of the Massachusetts Horticultural Society during the past year, though the improvement has been very marked over former years, and we trust may be lasting and will continue. Some were unfit to cumber the back-shelf of the poorest greenhouse; others would require a ladder to be seen to advantage; while many were well-grown, beautiful, symmetrical specimens, which delighted all who beheld them. We see from this that there are many among us who not only know what a

truly-elegant, well-grown plant is, but also those who, having the knowledge, are willing to take the pains and bestow the care necessary to insure beauty and perfection. It is a false mistaken idea that the only object to be attained in raising plants is abundance of bloom, and still more erroneous to suppose that an ill-grown plant will produce more flowers than one grown into fine shape, and properly trained and cared for. These errors will in time be overcome, for the true principles of beauty will at length be evident to all, and must prevail.

Many verbenas, which for greenhouse blooming are unsurpassed, are worthless for bedding purposes; the petal of the flower being too thin, or the color fading or changing. Again, some bloom well in winter, others far better in summer; some form large masses and flower well, others are of rambling growth and poor bloomers; some of creeping, others of more upright habit; while a few possess every desirable quality, and in making a selection all these properties are to be considered.

We have said that seedlings were produced with great ease. The verbena seeds well where the plants have not been too long propagated by cuttings; a long-continued propagation by cuttings seems to diminish the power of the plants to produce seed, and, as a general rule, the further removed a plant is from a seedling the less the chance of its perfecting good seed. The seeds may be sown in a hotbed or greenhouse, early in spring, and the plants, when about an inch and a half high, pricked out in the border; it is a good plan to pinch out the leading shoot, as thus the plants branch and become stronger; the plants grow rapidly, and soon show bloom.

But, to raise a seedling is one thing, to raise a fine seedling, a far different. Of many hundred raised in the course of the last few years, by the writer, not more than half a dozen have been worthy of preservation, and only one (and that produced by chance) really a first-class flower.

In raising seed much may be done to insure its quality by planting fine varieties together and allowing them to intertwine, then gathering the seed from these plants. No rule can be laid down to obtain any desired color, for the seedlings sport infinitely; we can only approximate towards definite results; thus, if we plant Annie (white) and Robinson's Defiance (red) together, the seedling will be likely to be pink.

The flowers of the verbena are of every color and shade, except light blue and yellow, which colors have never been obtained. The writer, some years since, by a curious process of watering and fertilization with a white verbena, obtained a seedling which proved on blooming to be of a light straw color; the plant was weak and sickly, and died before cuttings could be taken. Since that time he has tried the result often, but never with any successful result.

The qualities of a first-class verbena, as laid down by florists, are: *roundness of flower, without indenture, notch or serrature; petals thick, flat, bright and smooth; the plant should be compact, with short, strong joints, either distinctly of a shrubby habit, or a close ground creeper or climber; the trusses of bloom compact, standing out from the foliage, the flowers meeting,*

but not crowding each other; the foliage should be short, broad, bright, and enough to hide the stalk; in the eyed and striped varieties the colors should be well defined and lasting, never running into each other, or changing in the sun.

At the Opening Exhibition of the Society, about the middle of May, 1859, it was conclusively shown that it was not impossible to grow verbenas as specimen plants. There were shown single pots of verbenas grown in 10-inch pots, which measured three and four feet across, and were a perfect mass of buds and blossoms; some were trained flat, not a branch rising more than a foot from the pot, others were taller, and others again were so trained as to completely conceal the pot. These verbenas were the admiration of all; none could believe that such perfection of beauty could be attained in a plant so common. May we not hope that the example may be followed at our coming exhibitions?

It only remains for us to describe some of the best varieties, both old and new; those called first-class flowers can be recommended for general culture, while many others, though very distinct and beautiful, are valuable only in a large collection, or interesting to the amateur. We have not noticed seedlings, unless they have been proved and shown to be worthy of general culture.

Giant of Battles. Flower and truss large; habit good; foliage large; color dark scarlet, with purplish eye. A good variety.

Dred. Flower medium; habit weak; a good bloomer, but of a dull purplish lake color. Pretty for variety.

Admiral Dundas. Foliage and habit good; color velvety scarlet. Fine.

General Simpson. A magnificent variety; color scarlet, crimson; flower and truss very large; habit very strong; by far the best of its color. No garden should be without it.

Celestial. A strong growing variety, the leaves often two inches across; truss large, forming a fine head; color pink, with darker eye; very fine.

Evening Star. Color dark crimson, with well defined white eye; growth small; very fine in the house, and one of the best of the eyed varieties for the border.

Rosy Gem. A lovely verbena; flower and foliage of medium size; color rosy lake, with light eye; fine in the house, but worthless for open culture.

Brilliant de Vaise. Growth fine; color crimson scarlet; a first-class variety; succeeds equally well in the house and garden, though a late bloomer.

Climax. Light, with dark eye; good.

Chauvieri. Of weak habit; color dazzling crimson, with dark eye; valuable in a collection.

Defiance, (Robinson's.) A fine old variety, always popular, and one of the best for bedding; growth strong; color dazzling red.

Defiance, (Kurtz's.) Of large strong growth; color light pink, shading to a dark eye; truss very large and flat; fine.

Etoile de Venus. Similar to the last, but larger and finer.

Annie. Habit strong, foliage medium; color pure white; truss large, flat, single blooms very large; in some situations in the garden it has been

very poor, in others very good; a damp peaty soil has flowered it in perfection, while in a dry or sandy place the trusses have been small, the growth weak, and the flowers inclined to change to pink. In the greenhouse, for winter flowering, it is very superior, being a constant bloomer; a well-grown plant will give more bloom than two of any other variety; superior.

Imperatrice Elizabeth. A pretty little striped variety, which should be in every collection; truss flat and small; foliage cut and fine; habit creeping; very pretty for a specimen plant, and a free grower in the garden.

Dedham Belle. A good pink, free-flowering variety.

Iphigene. Purple, with dark eye; a superior old variety.

St. Margaret. An old popular variety; color crimson scarlet; truss and flower good; always a free bloomer, and well worthy of cultivation.

Glory of America. A first-class verbena for the garden; always a mass of bloom; crimson.

Lord Raglan, (Banks'.) Dark crimson, with dark eye; a fine flower; but the plant is of slow growth, and a poor bloomer.

Lord Raglan, (De Fosse's.) Light pearl color; peculiar, good for spring blooming.

Madeline Parfume. Like the last; fine for the garden, but useless in the greenhouse.

Mrs. Archer Clive. A first-class variety; color rich carmine, shading to dark eye; equally fine for greenhouse or open culture.

Mrs. Holford. A fine white; growth strong; very fine for garden blooming, but very late in the greenhouse; superior.

Striped Eclipse. An old variety, of very rambling habit, very good, but now little cultivated.

Mrs. Woodruffe. Like Robinson's Defiance, a larger flower, but shades not well defined.

Metropolitan. Fine purple, large truss, vigorous growth, foliage peculiar; good bloomer in the house, but usually poor in the garden.

Lady Kerreson. Blush white, yellow eye, with rosy spot on upper petal.

Wonderful. Habit strong and good; color rich plum purple, with large white eye, which in open culture is inclined to be ill-defined; good in the house.

Mrs. H. Williams. White, weak growth; worth cultivation, on account of its color.

Mad. Lemounier. Striped; foliage coarse; the best large striped variety.

Eva Corinne. Light pink, shaded to crimson.

Cerulean Orb. Purple; growth good.

Rubens. Color rosy scarlet; growth superior; fine for garden or greenhouse.

Hiawatha. Growth vigorous, truss large; color dark; a good variety.

Rand's Blue. More properly a purple; very fine for bedding, but poor in the house; difficult to propagate, and hard to keep through the winter. One of the prettiest floral effects we ever remember to have seen was

produced by a large bed of this variety, in the centre of a grass plat at the garden of Joseph Breck in Brighton.

Standard Bearer. Rich plum color, with white eye; a very desirable and beautiful variety.

Victory. Reddish purple, light eye, growth good; a superior variety.

Prince of Wales. Shaded scarlet, light eye; fine.

Vicomptesse Emelyn. Color white, shading to dark; well-defined eye; a free flowerer; by far the finest of its class; does not propagate easily.

Bostonia, (Jackson's.) A lovely variety, shaded white and pinkish red; truss fine; flower of good substance; well worthy of cultivation.

Jennie. A sparkling little red variety; a free bloomer.

Jenny Lind. A pretty white and purple-eyed variety.

We have thus given a few of the many varieties of this popular flower. We have purposely refrained from describing the varieties introduced during the last season, as they have not as yet been proved; many of them however, and some new seedlings, promise well.

Verbenas may be grown to advantage in the garden, either in masses, as single plants, or upon rockwork; many pretty effects may be produced by a careful arrangement of colors; they are also well adapted for hanging pots and for vases, in which they will bloom profusely.

There is no flower which, if properly grown, will better repay the care required, and none which will show so well with but little attention, and we trust that these few remarks may lead to a more careful cultivation of this beautiful plant.

FALL BLOOMING ROSES.

BY WILLIAM C. STRONG.

To the Chairman of the Flower Committee:

As you request from me some suggestions upon the culture of the Rose, I shall first, and gladly, embrace the opportunity to again remind you that our Society offers no premiums for Fall Blooming Roses. It is certainly true, as you have said, that the display would be too meagre to warrant large premiums. Are we then to settle down to the melancholy conviction that the name "Hardy Perpetual Rose" is only a figment? Are we really to expect only a few stray and imperfect blooms, merely serving as reminders of glory departed? It is a gross slander upon the first of blood of this royal family. Hardy, hybrid-perpetual roses are *the* great step in advance in rose culture of the present age, and the step is a complete reality. Our meagre fall show is a disgrace, not to the class, but to ourselves. And if genuine love has not provoked to good deeds, let a competition be created by premiums, and the public will learn that September is striving for the mastery in flowers, as well as fruit. I will add a few rambling suggestions for the attainment of so desirable a result.

Against public sentiment, and the opinion of some experienced cultivators, I affirm that the Manetti stock is the foundation on which to build. There are a few varieties which are exceptions; but for the great majority of varieties the Manetti stock will secure the premium against all other competition. Does any one complain that it suckers, and gives too much trouble? Then let them go back to the June roses and talk no more about their devotion to the Queen of Flowers. It is admitted that the Manetti stock does sucker, but upon established and properly treated plants the tendency is so slight that a real rose lover should be heartily ashamed to make complaints, when he receives such complete return for his slight care. I consider it important that the rose should be so worked that the whole of the Manetti should be under ground, as in the case of the quince for the pear. In such condition it is my experience that the plant is quite as long lived and more vigorous than when on its own root—vigor is all-important to free and perfect fall-bearing.

Again, it is necessary to a succession of flowers that the plant should not exhaust itself in June. A Baldwin apple tree, that has loaded itself to the ground, we do not ask to bear again for two years. A rose will bend under its burden, constantly, throughout the year. Three-fourths of the June buds must be nipped, the strongest shoots must be checked, and some branches severely cut back. Then the plant will throw out new laterals with vigor, and the crowning buds will open in all the magnificence of June. Does some drone here put in a word about all this trouble. Then go back again to the old June rose, and boast no more of your allegiance. A word about winter management. I have found that plants do best when removed every year. Opportunity is thus given to trench and enrich the soil and put the ground in fine tilth, in the spring, at planting. When removal is practised, plants are best wintered by burying them root and branch in a dry, light mound, away from all vermin, and, to a partial extent, away from frost. This method is preferable to cellars, or cold-frames, being less troublesome, and better for the plants. It is beautiful to see the plump buds and the fresh wood full of sap—kept by the cool, genial moisture of mother earth. Nurserymen, who cut their scions in the fall, and bury them for spring grafting, understand the difference between wood that has been pinched and dried up by the fierce winter winds, and this which is bursting with rank life, and ready to root into anything upon which it can fasten. By this method of "living burial," the most tender roses may be preserved. But it is, of course, essential that the mound should be light and dry, so that winter rains will quickly drain off. Should this method of yearly transplanting seem too laborious, a plan answering nearly as well is this, to draw up a generous hill of earth around each plant, and then cut off all the wood that appears above ground, taking care that the extreme roots are not exposed by this hilling process. By such simple care, and with the addition of so many superior new varieties, I am sure you will agree with me, Mr. Chairman, that, if we do not make our Hall look gay with roses in September, the fault is all our own.

Nonantum Hill, Brighton, Mass.

THE PICOTEE AND CARNATION.

BY B. K. BLISS.

Springfield, Nov. 24, 1859.

E. S Rand, Jr., Esq.

Dear Sir :—I am in receipt of yours of a recent date asking for an article on the cultivation of the Carnation and Picotee Pink. In giving this, I lay no claim to originality—being indebted principally to various English writers for whatever information I may possess on the subject. Having followed their directions for several years, with the best success, I cannot do better than to draw largely from the same sources ; making such alterations as my own experience, and the difference in the climate, would seem to require.

I remain, very truly yours, B. K. Bliss.

"Of all the flowers that adorn the garden," observes Mr. Hogg in his treatise, "whether they charm the eye by their beauty, or regale the sense by their fragrance, the Carnation and Picotee may justly be said to hold the first rank. The stateliness of their growth, the brilliancy and diversity of their colors, and the sweetness of their perfume, never fail to attract our regard and admiration. To the ardent and devoted florist the splendor of a first-rate bloom of either is scarcely to be surpassed. A perfect flower, or what would be called such at the English and Scotch exhibitions, is seldom seen in this country, our hot sun and dry atmosphere being unfavorable for their full development. With careful shading, however, from the midday sun, and a judicious application of water and liquid manure, the amateur florist will be fully repaid by the production of blooms equal in brilliancy and variety of coloring, if not in size, to those of our transatlantic friends.

On taking a retrospective glance at the origin and history of the Carnation, we have it on record that its first introduction was from Italy or Germany. Didymus Mountain, in the "Gardener's Labyrinth," 1571, enumerates Carnations among the flowers grown for "adorning of gardens," and speaks of them as well known to every one. Barnaby Googe, in his translation of Heresback's work, entitled "Foure Bookes of Husbandrie," London, 1578, mentions only three sorts of Carnations as then grown; a few years later, Gerarde tells us that in his time, 1597, "there are at this day, under the name of *Caryophyllus*, comprehended divers and sundrie sorts of plants, of such variable colors, and also several shapes, that a great and large volume would not suffice to write of every one at large, in particular, considering how infinite they are; how every year, every climate and country bringeth forth new sorts, such as have not been heretofore written of; some whereof are called Carnations." He adds, also, "the great Carnation Gilloflower hath a thick woody root, from which rise up many strong-jointed stocks, set with long, green leaves, by couples; on the top of the stalks do grow very fair flowers of an excellent sweet smell, and pleasant carnation color, whereof it took his name." Then follows a rude wood-cut of his "great double Carnation," of which the worthy old "apothecarie,"

doubtless, had many such growing, as he frequently states, "in my garden in Holborn." In this figure the flower appears nearly semi-double, and with petals having teeth like a coarse circular saw. In the course of a few more years, 1629, Parkinson, in his "Paradisa," calls the Carnation the "queen of delight and of flowers," and describes no less than fifty-two varieties then in cultivation, a proof that they were coming into special favor, and that attempts were, even at that time, directed to improvement.

He then treats, at some length, on the cultivation of the Carnation, and, indeed, may be regarded as the first English author on the subject. One Taggre, residing in Westminster, was the most famous man at that time for Carnations, Pinks, &c. Evelyn's "Gardener's Kalendar," 1664, has good practical directions for their culture, and shows that their management was tolerably well understood by him. John Rea, a professional gardener, who published in the following year a large work, entitled "Flora," has left a catalogue in which he describes 360 good Carnations, a number scarcely exceeded by more modern ones. To follow the history of the Carnation or Picotee through the eighteenth and present century would be almost superfluous; we have brought it up to the commencement of the period at which its cultivation, as a Florist's flower, may be fixed, when the blooms were begun to be shaped, if we may so speak, after an ideal model, and when florists had their clubs and meetings to which they brought their seedlings, and, for want of magazines and periodicals devoted to floriculture, imparted the results of their experience over a friendly bowl and under the influence of the sedative pipe.

The question is often asked by those who are beginning to love the cultivation of this favorite flower—What is the difference between a Carnation and Picotee? The Carnation has the marks on its petals from the centre to the edge, in flakes or stripes of colors on a white ground. The Picotee has a white or yellow ground, the edges of the petals being fringed with various shades of red and purple.

Carnations are divided into five classes, namely: 1, Scarlet Bizarres; 2, Pink or Crimson Bizarres; 3, Scarlet Flakes; 4, Rose Flakes; 5, Purple Flakes.

Bizarre is derived from the French, meaning "odd or irregular." The flowers in these classes have three colors, which are irregularly placed on each petal. *Scarlet Bizarres* have that color predominating over the purple or crimson; but the *Pink or Crimson Bizarres* have more of these colors than the scarlet. *Scarlet Flakes* are simple white grounds, with distinct stripes or ribbons of scarlet. *Rose* and *Purple Flakes* have these two colors upon a white ground.

Properties of a good Carnation.—1. The flower should not be less than two and a half inches across.

2. The guard, or lower petals, not less than six in number, must be broad, thick, and smooth, on the outside; free from notch, or serrature, on the edge; and lapping over each other sufficiently to form a circular rose-like flower, the more perfectly round the out-line, the better.

3. Each layer of petals should be smaller than the layer immediately under it; there should not be less than five or six layers of petals laid regularly, and the flower should so rise in the centre as to form half a ball.

4. The petals should be stiff, free from notches, and slightly cupped.

5. The ground should be pure white, without specks of color.

6. The stripes of color should be clear and distinct, not running into one another, nor confused, but dense, smooth at the edges of the stripes, and well defined.

7. The colors must be bright and clear, whatever they may be; if there be two colors, the darker one cannot be too dark, or form too strong a contrast with the lighter. With scarlet the perfection would be a black; with pink there cannot be too deep a crimson; with lilac, or light purple, the second color cannot be too dark a purple.

8. If the colors run into the white and tinge it, or the white is not pure, the fault is very great, and spots or specks are highly objectionable.

9. The pod of the bloom should be long and large to enable the flower to bloom without bursting it; but this is very rare; they often require to be tied about half way, and the upper part of the calyx opened down to the tie of each division; yet there are some which scarcely require any assistance, and this is a very desirable quality.

10. Decided superiority of perfume should obtain the prize when competing flowers are in other respects of balanced merit.

Properties of a good Picotee.—It is divided into seven classes. 1, Red, heavy edged; 2, Red, light edged; 3, Rose, heavy edged; 4, Rose, light edged; 5, Purple, heavy edged; 6, Purple, light edged; 7, Yellow ground, without any distinction as to the breadth of the edge color.

The characteristics of a good form are the same as for the Carnation, but with regard to color—

1. It should be clear, distinct; confined exclusively to the edge of the petals; of equal breadth, and uniform color on each, and not running down, (called sometimes feathering or barring), neither should the white ground run through the colored border to the edge of any one of the petals.

2. The ground must be a pure white without the slightest spot.

Disqualifications of a Carnation or Picotee:—

1. If there be any petal dead or mutilated.

2. If there be any one petal in which there is no color.

3. If there be any one petal in which there is no white.

4. If a pod be split down to the sub-calyx.

5. If a guard petal be badly split.

6. Notched edges are glaring faults, for which no excellence in other respects compensates.

The reader must bear in mind that the foregoing rules are those which govern the various Societies that are in existence in England and Scotland for the exhibition of this tribe of plants alone. Whether its cultivation will ever arrive at that perfection in this country, as to enforce such rules at our exhibitions, is for future Florists to determine.

Propagation and General Treatment.—*Soil for culture in pots.*—Get the turf from an upland pasture ; take off about three inches thick, and keep it in a heap for a year, to cause the grass roots to decay and mellow the soil ; chop it, and turn it over four or five times during the year, it will be in finer condition for use. During this, the worms and grubs, especially wire worms, should be picked out, for it is frequently the case that the soil best adapted to the Carnation contains its greatest enemy. Before being used, the soil should be passed through a course sieve or screen, and the fibre rubbed through with the soil. The soil in which the plants are bloomed and that in which they are kept in small pots through the winter, should be different ; for in the latter they are not required to make much progress, and the less they are excited in autumn and winter the better, provided they make steady progress and preserve their health. This can only be secured by abstaining from the use of stable dung, using pure loam, and such decayed vegetable matter as is afforded by the grass naturally growing in loam when the turves are cut. Neither should the loam be too adhesive, but sufficiently porous to allow the water to percolate freely ; should it not be so naturally, a little sand may be used to lighten it. In preparing the soil for blooming the plants, take of this loam *three* parts, well decomposed leaf mould *one* part, thoroughly rotted cow dung *one* part, (if this cannot be obtained, hotbed manure, well decomposed, in fact reduced to a fine black mould, may be substituted), and of sandy peat *one* part. A small portion of old lime rubbish, slightly sifted, will be of service to the plant, mixed among the compost. Being duly mixed in sufficient quantity, let it be brought under shelter to dry sometime before the potting season.

On receiving the plants from the nursery, if in the fall, they should be potted, as above, in four inch pots, giving two inches of crocks at the bottom for drainage, and nearly filling the pot with the earth, but highest in the middle, and spreading the roots as much as possible all around alike. The soil is only just to cover the roots, and to be pressed gently to them, and in this state, after watering to settle the loam about their roots, they should be placed in a common garden frame upon a *hard bottom*, into which the waste water, when refreshed, cannot soak, but with a very gentle slope, that any water which runs through the pots may run away. In the winter management the chief object is to give all the air they can have in mild weather by taking the lights off; to give them water very seldom, and never till they absolutely want it. If to be grown in pots, they should be repotted early in twelve inch pots, two or three plants in a pot, using the soil above directed. Let there be, at least, three inches drainage. In putting them in those large pots let the ball of earth be turned out whole, rub off a little of the surface, and, after having filled the large pot high enough with the compost, place the ball so that the collar of the plant, which is just above the surface of the old ball, be within half an inch of the edge of the pot, put the soil around it, press it down between the ball and the side, and fill the whole up level with the collar of the plant, and the edge of the pot. Let them all be placed in a sheltered spot, and refreshed with water when they require it, which will be more or less frequently according as the

season be dry or wet. Let each pot have a stake in the centre to which the plants may be closely tied as they rise up for bloom. When they show their buds remove all but three, and the flowers will be the finer, and not more than one blooming shoot may be left on each plant. When the buds have swollen and are about to burst, tie a piece of bass matting round the middle, and carefully open the calyx down to the tie, at all the divisions, as the flower can then open all around alike, otherwise they frequently burst on one side, and it is then difficult to form an even flower. As the petals develop themselves they should be shaded from the sun and rain—either of which would damage the flowers. Culture in pots is seldom resorted to in this country, unless it be for exhibition purposes, and it is for the benefit of amateurs, who wish to grow them for that purpose, that we have given such minute directions.

Culture in Beds and the Flower Border.—This is the most common method in this country, culture in pots being attended with more trouble, and occupying more time, than can usually be given.

They succeed admirably in any good garden loam, provided it is well drained; wet or moisture when over abundant is very injurious. The soil should be trenched to the depth of eighteen inches in the fall, enriching it at same time with leaf mould, and cow's manure thoroughly rotted; should the soil be heavy, an addition of refuse charcoal, lime rubbish, or sand, will be beneficial; leaving the surface rough that the frost of winter may act upon it. In the spring the beds should be again thoroughly spaded to the depth of one foot, and raked smooth, after which the plants should be turned out of the pots, leaving the ball entire, and planted two feet apart each way. The after treatment may be the same as recommended for pot culture.

Propagation.—By layers and pipings for increasing approved sorts, and by seed for the production of new varieties.

By Layers.—The time for performing this operation is when the plants are in full bloom, or a little past. The shoots of the plant around the bottom should then be brought down to the ground, and, when rooted, separated from their parent. The materials needed for layering are a sharp small knife, a quantity of notched pegs, and some finely sifted soil. Choose a dull, cloudy day on which to perform this work, or if the plants are in pots they may be layered in any weather. Begin by trimming off the leaves from the bottom of a shoot, leaving the two uppermost on, and entire. Trim off the lower leaves on every shoot before layering one, because when a layer is tongued it is easily broken off. When this is done take hold of the shoot, turn it up and pass the knife blade through the third joint upward, commencing the cut just below it, then reach a hooked peg, thrust it into the soil, catching hold by its hook of the layer as it descends, and press it gently down to the soil. Do the next in the same manner, and so on until every shoot is layered, then cover them all with the sifted mould about three quarters of an inch deep, and the process is completed; then give a slight watering and the layers require no further care, but watering, until they are rooted, which will be in about a month or

six weeks. When sufficiently rooted, pot them off into five inch pots, a pair in each; or, if your space is limited, and the layers small, three may be put into each pot. After they are potted they should be placed under glass in a cold frame or pit, plenty of air given in mild weather, and shelter from severe frost when it occurs. Very little water is required during the winter months, and the air in the frames should be as dry as possible. Should damp prevail, the plants, some fine day, should be taken out, and a coat of fine dry coal ashes spread over the surface. The plants should then be replaced in the pit.

By Pipings.—Carnations may be propagated by this mode where there is the convenience of a gentle hotbed. It is, however, not so safe as layering, but when there are more shoots than can be layered, and it is desirable to propagate largely, the superfluous shoots may be piped. Cut off the lower part of the shoot up to the third joint, trim off the lowest pair of leaves, and pass the knife just through the joint. Prepare a pot, by draining it, and filling it with the compost up to within an inch of the top; fill that inch with silver sand, water it gently to make it firm, and then insert the piping all around it, close to the pot sides; place them in a gentle hotbed, shading from the sun; watch them daily, and supply water when the sand becomes dry. When they are rooted, which they will show by sending up fresh leaves, pot them in pairs, as directed for layers, and treat them in the same manner.

By Seeds.—The seeds may be sown, during the spring months, in boxes or pans, filled with the same description of soil as before recommended. Let the surface of the soil be made even, and the seed evenly scattered over it, cover them to the depth of a quarter of an inch with finely sifted mould. If early in the season, the pans may be put in a moderate hotbed, just to cause the seeds to germinate, but must not be long kept there for fear of weakening and drawing the plants. Without artificial heat the seeds may be sown in May, placing the pans or boxes in an open airy part of the garden, but shaded from the sun at least from ten in the morning till four in the afternoon. Moderate moisture will be indispensable, but if the soil be kept too wet the plants are liable to damp off, or to be otherwise injured. When the plants have acquired six leaves, and are about two inches high, they should be pricked out in rows six inches apart, keeping them well watered until they have taken fresh root. About the beginning of October they should be potted for the convenience of wintering. Plant out in the spring in a bed prepared as before directed. As soon as the blossoms can be seen, all the single sorts should be taken up and thrown away to give the double ones more room to grow. The finer blossoms ought then to be selected for layering or piping.

The following list comprises a few of the varieties which I have cultivated for several years, and consider among the most desirable in my collection:

CARNATIONS.

Admiral Curzon,	(Paxley)	Scarlet Bizarre.
Coriolanus,	(May)	" "

Howard,	(Paxley)	Scarlet Bizarre.
Mr. Ainsworth,	(Holland)	" "
Oliver Goldsmith,	(Turner)	" "
General Simpson,	(Paxley)	Crimson Bizarre.
King of Carnations,	"	" "
Lord Milton,	(Ely)	" "
Premier,	(Paxley)	" "
Falconbridge,	(May)	Pink and Purple Bizarre.
Beauty of Woodhouse,	(Mansley)	Purple Flake.
Squire Meynell,	(Brobbin)	" "
Acca,	(Paxley)	Scarlet Flake.
Squire Trow,	(Jackson)	Purple Flake.
King of Scarlets,	(Ely)	Scarlet Flake.
Valentine,	(May)	" "
Benedict,	(May)	Rose Flake.

PICOTEES.

Esther,	(Edmonds)	Red edged.
Mrs. Lochner,	(Turner)	" "
Prince Albert,	(Headley)	" "
Amy Robsart	(Dodwell)	Purple edged.
Countess,	(Fellowes)	" "
Ganymede,	"	" "
Haidee,	"	" "
Ophelia,	(May)	" "
Prince Arthur,	(Fellowes)	" "
President,	(Turner)	" "
Princess Royal,	(Willmer)	Rose and Scarlet edge.
Duke of Newcastle,	(May)	" "
Lamia,	"	" "

OUR GREENHOUSES, AND WHAT WE GROW IN THEM.

BY THE CHAIRMAN.

If the question were asked, What do we grow in our greenhouses? it would have to be thus answered, A little of everything and nothing well. This is the truth, discreditable as it may be; and to show how we may improve in this respect is the purpose of this article.

Let us visit any greenhouse in our neighborhood and carefully examine the collection,—in how many shall we find a dozen really beautiful specimen plants? Here and there, now and then, a fine, well-bushed, or trained, well-proportioned plant may be seen; but the mass are tall, long-drawn, ungainly, ugly plants, which, aside from their companions, possess no beauty or symmetry. How, then, do they appear so well? By grouping,

each hides the defects of each, and a staging full of these ugly, ill-grown plants may often present a fine appearance. But this is not the true end to be gained in floriculture; in this way we can never approximate to perfection,—the evil grows year by year.

Of what plants are our collections composed? Plants from every region of the globe, all huddled together in a space not large enough generally to grow those of one country to perfection. A small house some sixty feet long will be found to contain a collection of Camellias which flower and grow best in a temperature not above sixty degrees;—Ericas, which require about fifty degrees of heat; Azaleas, which will bear any high dry temperature; Cape plants, which need a different treatment from any of the above; Acacias, Oranges, Geraniums, Pelargoniums, Fuchsias, Tropæolums, Begonias, Cyclamen, Ixias, Sparaxis, Oxalis, Amaryllis, Roses, and hundreds of other plants, dissimilar in habits and nature;—all requiring a different treatment, each needing its peculiar atmosphere and temperature; and often a few sickly orchids or other stove plants, with yellow leaves and sickly aspect from want of proper heat, thrust in to fill up the spaces between the larger pots,—all these are crowded into one small house. Is it to be wondered that none ever reach perfection? that all are more or less diseased? that the flowers are poor, and the plants sickly? Can we expect it to be otherwise?

None will deny the beauty of a specimen plant, let the kind be what it may; and its superiority over an ill-grown plant, let the latter be ever so rare in variety. The public eye is attracted by symmetrical beauty, and not by novelty in variety. To the common observer a well-grown specimen of the almost forgotten Fuchsia globosa is far more beautiful than some new and rare plant, which presents no symmetry of proportion.

We would, by no means, discourage the taste for new plants; it is a healthy tendency, but may be carried too far. If we neglect all our old favorites, or give up well-grown, valuable plants for others of unproved merit, simply because the latter are new, the passion for novelties becomes a disease, and produces bad effects in practice. There is in this, as in all other things, a happy medium, which alone is the safe course; either extreme will lead us into error.

The passion for novelties, or any injurious effects arising therefrom, one would naturally suppose would be confined to amateurs, simply because—if for no other reason—it can only be indulged in by those whose pecuniary means are ample.

But this is not the case; we find our gardeners exerting themselves to meet any demand for new, rare, and expensive plants, to the neglect of our old and well-tried favorites.

There are certain plants which are, so to speak, standards,—we cannot do without them. Of this class are the Camellia, Daphne, Lauristinus, Orange, and many others. An orange flower will be as much esteemed an hundred years hence as to-day; so will a daphne, or a double-white camellia, let floriculture make what progress it may. But there are other flowers which are fast being lost to our greenhouses.

All of us can call to mind some flowers which, once popular, are now hardly to be found in any collection; and yet we are at a loss to give a reason. Let us look at a few cases.

We all remember a pretty little double-flowering briar, which goes by the name of "bridal rose;" it is an exquisite plant,—foliage very delicate, and of a peculiar living green covering every branch; flowers snowy white, rose-shaped, with a green centre and studding the plant; habit most favorable for symmetrical culture, and yet we may search in vain in our greenhouses for this plant combining so many desirable qualities; it is only to be found grown in old pitchers, &c., in the windows of the poorer classes, or in some private conservatory where its beauties are appreciated. Another instance: can a plant more ornamental at every season than the Achænia malvaviscus be found? All the year it is studded with its scarlet blossoms, and ornamental white berries; these, contrasted with the green leaves, produce a charming effect; and yet a few years since it was impossible to procure a plant. Latterly it has appeared in some gardeners' catalogues, but whether from any demand or an appreciation of its merits is difficult to say. The writer never saw but one fine specimen of this plant, and that was a picture of beauty, over four feet in height, well bushed, covered with healthy foliage, and the end of each branch crowned with coral flowers, while the berries gemmed the whole plant, white, blush and red. Such a plant was worth a greenhouse full of the trash generally cultivated; and all this had been done, by careful attention, in a parlor, the plant never having been carried to a greenhouse; if this can be done in house-culture, what ought we to expect from those who have every facility for growing plants to advantage.

Instances of this kind might be multiplied, but these must suffice. What has caused this neglect we are at a loss to say. And another question arises, Can a remedy be found? We think it can. Let our cultivators, our gardeners, our amateurs, estimate a plant by its real beauty, value it for its intrinsic merit, and not by the factitious standards of novelty or dollars and cents. Suppose you have a greenhouse full of rare plants, but all poor, ill-grown specimens, costly, but not beautiful; your neighbor has a dozen fine specimen plants, in which nature, assisted by all the appliances of art and care, has developed a perfection of form, a vigor of growth and foliage, a profusion of flower; let these all be common, well-known plants,—fuchsias, azaleas, even verbenas, or other soft-wooded plants: which has approached nearer the true end of floriculture, regarding it either as a pleasure or as a science? Surely he who develops to the best advantage the powers of Nature. But we have taken an extreme case; there may be as great beauty, and often is, in the new plants as in the old. Some of the introductions of the last few years possess beauties which a short time since we never dreamed. Another question: Are we any nearer improvement? These plants are the fashion of to-day, and we fully appreciate their beauty; but to-morrow some new taste will develop, and before our new plants, in the ordinary course of nature, have time to grow into good sized

specimens, they are out of date, and are discarded or neglected as old fashioned. This may seem a severe view, a harsh statement of facts, but it is literally true.

If we look at plants with the eye of the botanist, the simplest weed becomes invested with the highest interest; and to the botanist the rarer and newer plants are objects of special attention; but his task, or rather pleasure, differs from that of the florist; the botanist would turn away from the most beautiful double flower ever produced, regarding it as a monstrosity. But we are not writing for botanists,—with us they are few and far between; but for gardeners, amateurs, and florists, who esteem a plant rather for its flower, foliage, growth, and other obvious beauties, than for its structural adaptations, be they ever so curious and beautiful.

If our amateurs will grow fewer plants, and grow these few well; if they will discard the mass of rubbish, for it is nothing else, which cumbers the stages of their greenhouses, and grow their plants with plenty of room, light, and air, the evil will be remedied.

We do not now speak of this to practical gardeners,—to those who look upon their flowers as their means of support; they will not grow fine plants, and with reason,—they cannot afford it. Every available spot in their greenhouses must be filled with plants which will produce the most flower; they care nothing for the shape of the plant; to force the most bloom from it is their object; and their greenhouses most generally present a ragged and used-up appearance; the plants supply their bloom, are then thrust aside to make room for others, which in their turn bloom and are thrust aside. Under this treatment we do not wonder the plants are never well grown and seldom healthy; our only surprise is that they bloom at all.

There is another class of gardeners whose business is chiefly the sale of plants, and to whom the trade in flowers is merely a profitable adjunct. By these, some few specimen plants are grown, but usually less from any desire to raise a fine specimen as such, than from a hope thus to dispose of their large stock of young plants by showing how much can be done if care and attention are bestowed.

To neither of these classes would we direct our remarks; though both may sometimes grow fine specimens for exhibition, either with the hope of surpassing their neighbors, or of profit pecuniarily from prizes. We do not intend to say that all gardeners look upon flowers as mere objects of profit, and have no love for the subjects of their care; far otherwise, for we know well many cases where the love of the occupation is the chief motive; we only say that the tendency is to exalt the end and degrade the means.

But with amateurs the case is far different. They profess to grow plants for their beauty, not from any profit to be derived from them; and yet with this their avowed object, their greenhouses seldom present a more respectable appearance than those of gardeners who profess nothing.

But it may be said, amateurs need the flowers for their own use, and therefore must grow plants to produce the most bloom. If this is so, let

them grow their flowers for cutting in some greenhouse used for nothing else, and use their conservatories and fine plant-houses for specimen plants.

But there is a fundamental error underlying all this theory; a poorly grown plant *does not* produce more flowers than one grown with care as a specimen; the former may be sooner drawn into bloom, but the latter affords the greatest profusion.

A constant cutting of the flowers will ruin a specimen plant, unless great care is taken, and this, together with the time taken to perfect the specimen, is another reason gardeners will not grow specimens.

But the plant is the object of attraction as much as the flower; without it, the flowers are not shown to the best advantage, and the perfection of beauty is attained when a perfectly symmetrical plant is seen, healthy in foliage, free from disease, and gemmed with a profusion of bud and blossom.

Before closing this rambling article, let us consider a few of the plants which, now neglected, would, as specimens, be pictures of beauty.

And, first, the Camellia. This plant is by nature of the most symmetrical form, and with little care can be perfectly grown; contrary to the general opinion *there is no plant which bears pruning better than the Camellia;* let the branches be well pruned out, so as not to interfere; the plants be stocky and well covered with foliage; the roots allowed room enough, and the soil kept sweet and rich; and the specimen is obtained. The common care of removing all but two flower-buds, or even one from each shoot, with other minor cares, must not be neglected; but, above all, *do not crowd your plants;* let them have light and air on every side, above and below, and keep an even, low temperature; follow this plan and you will no longer complain of weak plants, long-drawn, tall specimens with yellow leaves and dropping buds; and you will be surprised at the health and vigor of your plants. From one plant thus cared for, you will obtain more bloom than from a dozen camellias as commonly grown.

The Daphne—a lovely, always grown, but always neglected flower—will make a lovely specimen; do not spare the knife, for its tendency is to long, leafless branches. You must also begin with a young plant, for to reclaim an old specimen is well-nigh hopeless.

We do not propose to give the rules of culture for any plant, presuming our readers know how to grow the plants, but merely mention those adapted for specimens with any peculiarity, the knowledge of which may be useful in growing the plant to advantage.

Azaleas are too well known to be commented upon, and their beauty as specimens cannot be too highly praised.

Acacias are only seen to advantage planted out in the greenhouse borders; being by nature trees, they never make fine specimens in pot culture.

Achænia malvaviscus, as before observed, makes a lovely specimen, and bears pruning well.

Fuchsias of all kinds show to great advantage properly grown,—except, perhaps, the white corolla varieties, which are of too weak a habit to make large plants.

Oranges bear pruning well, and grow to a large size.

Ericas. *We read* of fine specimens many feet in diameter and well bushed. Have we ever seen at any of our exhibitions a specimen erica?

Epacris. The same remarks apply.

Kennedias, are all well adapted for specimens; trained on balloon trellises and in full bloom, what can be prettier?

The same may be said of Allamandas, Rhyncospermum, Combretum, Stephanotus, and a host of other climbers.

Chorozema varium, also, makes a beautiful specimen trained in this way.

All the soft-wooded climbers are superb objects grown on large trellises, if the foliage is in good health.

Pelargoniums and Geraniums, we all know, make superb specimens; also Verbenas, Heliotrope, and other plants of the same nature. Hoveas, and plants of kindred nature, are very poor subjects for specimens, but much may be effected by care and patience. The Cape bulbs, such as Ixias, Sparaxis, &c., are never treated with proper care; they are forced into bloom, and then, instead of allowing the leaves to ripen well, the plants are thrust out of the way, dried off, and the only wonder is they ever perfect any bulbs. As it is, the bulbs decrease in size year by year, and at last, being too small to bloom, are cast aside as worthless. These remarks apply to all greenhouse bulbs, except, perhaps, the Cyclamen. We have never seen well grown pots of Cape bulbs, except in a few instances.

Will not some amateur make the growth of bulbs a specialty, and show us what can be done in this almost unexpected region of floriculture? We should say unexplored in this country. In England, much has been done, and great has been the reward.

Orchids make superb specimens, but the growth is slow, and the attention needed immense. The various classes of ferns, mosses, lycopodiums, and other Cryptogamous plants, can be very prettily grown.

The vast class of variegated-leaved plants are pictures of beauty if properly grown, and well repay any outlay of care or expense.

Even with our common herbaceous plants, or with annuals, a very pretty effect may be produced.

Thus we have shown that the neglect is not caused by want of objects upon which to practise.

If we continue to show our greenhouses filled with plants which, by their careless growth and sickly aspect, are a disgrace to us, the fault is our own.

Let us give our plants the benefit of our increased knowledge,—give them air, light, and room to develop their beauties, and we shall soon see that they will not be slow to avail themselves of the liberty. It will then be our care to repress undue luxuriance, or to train into proper shape the wandering branches.

Above all, feed your plants well; they cannot thrive in a poor soil, or draw nourishment from the earth if you do not supply it. Again, adapt the soil to the wants, to the nature of the plant; give sand, peat, leaf-

mould, &c., as the habit of the plant requires. Give water as the habits of the plant require, and not promiscuously.

These may seem little matters, but they are vital to the plant, and a want of attention to them is sure to result in vexation and disappointment.

Who will take the initiative in this important movement? To whom shall belong the honor, the pleasure of showing a greenhouse filled with specimen plants?

PREMIUMS AND GRATUITIES AWARDED FOR FLOWERS.

The Committee would award the following prizes:—

Camellias.—For the best twelve named varieties of cut flowers with foliage, (not awarded,) a prize of	$8 00
For the next best, not awarded,	6 00
For the next best, do.	4 00
Heaths.—For the best named varieties, not less than six, in pots, not awarded,	10 00
For the next best, to Hovey & Co.,	8 00
For the next best, not awarded,	6 00
Epacris.—For the best named varieties, not less than four, in pots, to Jonathan French,	5 00
For the next best, to Hovey & Co.,	3 00
For the next best, not awarded,	2 00
Greenhouse Azaleas.—For the best six named varieties, in pots, to William Wales,	10 00
For the next best, to William C. Strong,	8 00
For the next best, to Hovey & Co.,	6 00
Pelargoniums.—For the best six named varieties, grown in pots, to William C. Strong,	6 00
For the next best, to Thomas G. Whytal,	4 00
For the next best, to Hovey & Co.,	2 00
Fuchsias.—For the best six named varieties, in pots, to William Wales,	8 00
For the next best, to Thomas G. Whytal,	6 00
For the next best, to Gustave Evers,	4 00
Calceolarias.—For the best six varieties, to Gustave Evers,	5 00
For the next best, not awarded,	3 00
For the next best, do.	2 00
Verbenas.—For the best six pots, to Edward S. Rand,	5 00
For the next best, to Edward S. Rand,	3 00
For the next best, to Hovey & Co.,	2 00
For the best single specimen, in pot or pan, to Edw. S. Rand,	2 00
Cinerarias.—For the best six named varieties, not awarded,	5 00
For the next best, not awarded,	3 00
For the next best, to Hovey & Co.,	2 00
Greenhouse Plants.—For the best display of not less than twenty, regard to be had to new and rare varieties, and well-grown specimens, of named plants, to Edw. S. Rand,	15 00
For the next best, to Hovey & Co.,	12 00
For the next best, to Gustave Evers,	10 00
For the next best, to Antane Apple,	8 00
Cut Flowers.—For the best display, to Edward S. Rand,	6 00
For the next best, to Gustave Evers,	5 00

For the next best, to A. Bowditch & Son, . . $4 00
For the next best, to James Nugent, . . . 3 00
For the next best, to Martin Trautman, . . . 2 00

Hyacinths.—For the best display, not less than ten named varieties, not awarded, ... 4 00
For the next best, not awarded, ... 3 00

Pot Plants—regard being had to new and rare varieties—
For the best specimen plant, to Marshall P. Wilder, . . 10 00
For the next best, to William Wales, . . . 8 00
For the next best, to William Wales, . . . 6 00
For the next best, to Edward S. Rand, . . . 4 00

Tulips.—For the best twenty distinct named varieties, (not awarded,) a prize of 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00

Pansies.—For the best twelve distinct varieties, in pots, (not awarded,) a prize of 6 00
For the next best, not awarded, ... 4 00
For the next best, to Gustave Evers, . . . 3 00

Hawthorns.—For the best display of named varieties, not awarded, ... 3 00
For the next best, not awarded, ... 2 00

Hardy Azaleas.—For the best display of named varieties, to Gustave Evers, ... 6 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00

Shrubby Pæonies.—For the best six named varieties, to Marshall P. Wilder, ... 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00

Herbaceous Pæonies.—For the best ten named varieties, to Hovey & Co., ... 5 00
For the next best, to Marshall P. Wilder, . . . 4 00
For the next best, not awarded, ... 3 00

Pinks.—For the best six distinct named varieties, not awarded, . 5 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00

Herbaceous Plants.—For the best display, to Antone Apple, 6 00
For the next best, to Barnes and Washburn, . . 4 00
For the next best, to Edward S. Rand, . . . 2 00

Class I.

Hardy June Roses.—For the best thirty distinct named varieties, to Hovey & Co., ... 8 00
For the next best, to Antone Apple, . . . 6 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00

Class II.

For the best twenty distinct named varieties, to M. P. Wilder, $7 00
For the next best, to James Nugent, . . . 6 00
For the next best, not awarded, ... 4 00

Class III.

For the best twelve distinct named varieties, to M. P. Wilder, 5 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00

Class IV.

Hardy Climbing Roses.—For the best display, not less than four named varieties, not awarded, . . . 5 00
For the next best, not less than four, not awarded, . . 4 00
For the next best, not less than four, do. . . 3 00

Class V.

Hardy Perpetual Roses.—For the best twenty-five named varieties, to Gustave Evers, ... 7 00
For the next best, to Antone Apple, . . . 5 00
For the next best, to Hovey & Co., . . . 4 00
For the next best, not awarded, ... 2 00

Class VI.

For the best fifteen named varieties, to Marshall P. Wilder, . 5 00
For the next best, to Thomas G. Whytal, . . . 3 00
For the next best, not awarded, ... 2 00

Class VII.

For the best ten named varieties, to Charles Copeland, . 4 00
For the next best, to Warren Heustis, . . . 3 00
For the next best, to William J. Underwood, . . 2 00

Class VIII.

Moss Roses.—For the best display of named varieties, to Hovey & Co., ... 4 00
For the next best, to Charles Copeland, . . . 2 00

Class IX.

Bourbon Roses.—For the best display of named varieties, not less than six, to Hovey & Co., ... 3 00
For the next best, to William J. Underwood, . . 2 00

Class X.

Large Bouquets of Roses.—For the best four, to Gustave Evers, 5 00
For the next best, to James Murray, . . . 4 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00

Class XI.

Tender Roses.—For the best display of tender varieties, not less than ten, to Gustave Evers, ... 5 00
For the next best, to James Murray, . . . 4 00
For the next best, to Martin Trautman, . . . 3 00
For the next best, not awarded, ... 2 00

Class XII.

For the best new Hardy rose exhibited during the season, not awarded, ... $3 00

For the best new Tender rose exhibited during the season, not awarded, ... 3 00

Summer Phloxes.—For the best ten distinct named varieties, not awarded, ... 5 00

For the next best, not awarded, ... 4 00

For the next best, do. 3 00

Carnations.—For the best ten named varieties, to Jona. French, 5 00

For the next best, to Hovey & Co., . . . 4 00

For the next best, to William J. Underwood, . . 3 00

Picotees.—For the best ten named varieties, to William J. Underwood, ... 4 00

For the next best, to Jonathan French, . . . 3 00

For the next best, to Hovey & Co., . . . 2 00

Hardy Rhododendrons.—For the best display of the season, of named varieties, not awarded, ... 6 00

For the next best, not awarded, ... 4 00

For the next best, do. 3 00

Hollyhocks.—For the best twelve named varieties, in spikes, to Antone Apple, ... 5 00

For the next best, not awarded, ... 4 00

For the next best, to F. Winship, ... 2 00

Balsams.—For the best eight varieties, in spikes, to Barnes & Washburn, ... 4 00

For the next best, not awarded, ... 3 00

For the next best, do. 2 00

Phloxes.—For the best ten distinct named varieties, not awarded, 5 00

For the next best, not awarded, ... 4 00

For the next best, to William C. Strong, . . . 3 00

Petunias.—For the best collection, to Hovey & Co., . . 4 00

For the next best, to Martin Trautman, . . . 3 00

For the next best, not awarded, ... 2 00

Annuals.—For the best display, to Hovey & Co., . . 6 00

For the next best, to Antone Apple, . . . 4 00

For the next best, to Barnes & Washburn, . . 3 00

Antirrhinums.—For the best display, of named varieties, not awarded, ... 5 00

For the next best, not awarded, ... 3 00

For the next best, do. 2 00

German Asters.—For the best thirty flowers, not less than ten varieties, to Antone Apple, ... 5 00

For the next best, to Hovey & Co., . . . 4 00

For the next best, to A. Bowditch & Son, . . . 3 00

For the next best, to Thomas Walsh, . . . 2 00

Stocks.—For the best eighteen spikes, not less than six varieties, not awarded,	$5 00
For the next best, not awarded,	3 00
For the next best, do.	2 00
For the best six spikes, scarlet, not awarded,	2 00
For the best six spikes, white, do.	2 00
Verbenas.—For the best named collection, of twenty-four varieties, a single truss of each, to Hovey & Co.,	4 00
For the next best, to Jonathan French,	3 00
For the next best, not awarded,	2 00
For the best new seedling, with foliage, the Society's silver medal, to G. G. Hubbard.	
Gloxinias.—For the best six pots, to William C. Strong,	6 00
For the next best, to Edward S. Rand,	4 00
For the best new seedling, Society's silver medal, to Edward S. Rand.	
Chrysanthemums.—For the best six named varieties, in pots, to Jonathan French,	6 00
For the next best, to G. G. Hubbard,	4 00
For the next best, to Gustave Evers,	2 00
For the best twelve varieties in trusses, not less than three of each variety, not awarded,	4 00
For the next best, to Jonathan French,	3 00
For the next best, not awarded,	2 00
Gladiolus, Gandavensis and Floribundus varieties,—	
For the best ten varieties, in spikes, not awarded,	5 00
For the next best, to Hovey and Co.,	4 00
For the next best, to Barnes & Washburn,	3 00
Parlor Bouquets, February Exhibition.	
For the best three, to Hovey & Co.,	3 00
For next best, to Antone Apple,	2 00
Parlor Bouquets, May Exhibition.	
For the best three, not awarded,	3 00
For the next best, do.	2 00
Parlor Bouquets, November Exhibition.	
For the best three, not awarded,	3 00
For the next best, do.	2 00
Hand Bouquets, February Exhibition.	
For the best three, to James Nugent,	2 00
For the next best, to Thomas G. Whytal,	1 00
Hand Bouquets, May Exhibition.	
For the best three, to James Nugent,	2 00
For the next best, to Thomas G. Whytal,	1 00
Hand Bouquets, November Exhibition.	
For the best three, not awarded,	2 00
For the next best, do.	1 00

DAHLIAS.—*Specimen Bloom*—For the best named flower, to Barnes & Washburn, ... $2 00

CLASS I.

For the best eighteen named dissimilar blooms, to Barnes & Washburn, ... 8 00

For the next best, to Martin Trautman, . . . 4 00

CLASS II.

For the best twelve named dissimilar blooms, to Barnes & Washburn, ... 6 00

CLASS III.

For the best six named dissimilar blooms, to James Nugent, 5 00

For the next best, to Barnes & Washburn, . . 3 00

PRIZES FOR POT PLANTS, CUT FLOWERS, AND BOUQUETS.

Awarded at the Annual Exhibition.

BOUQUETS.—For the best pair, suitable for the Bradlee Vases, a prize of the Bradlee plate, to Hovey & Co., valued at . 10 00

For the best pair, suitable for the Jones Vases, to Gustave Evers, 10 00

PARLOR BOUQUETS.—For the best pair, to Charles Copeland, . 8 00

For the next best, to Marshall P. Wilder, . . . 7 00

For the next best, to James Murray, . . . 6 00

For the next best, to Antone Apple, . . . 5 00

For the next best, to Thomas G. Whytal, . . . 4 00

For the next best, to James Nugent, . . . 3 00

MANTEL BOUQUETS.—For the best pair, to Miss E. M. Harris, . 5 00

For the next best, to William E. Carter, . . . 3 00

HAND BOUQUETS.—For the best four, to Thomas G. Whytal, . 5 00

For the next best, to Hovey & Co., . . . 4 00

For the next best, to James Nugent, . . . 3 00

CUT FLOWERS.—For the best display, and best kept during the exhibition, to Charles Copeland, ... 15 00

For the next best, to Antone Apple, . . . 12 00

For the next best, to Hovey & Co., . . . 10 00

For the next best, to Barnes & Washburn, . . 8 00

For the next best, to G. G. Hubbard, . . . 6 00

ACHIMENES.—For the best six pots, not larger than 12-inch, not awarded, ... 6 00

For the next best, not awarded, ... 4 00

The following prizes were awarded at the Annual Exhibition, by special vote of the Society:—

PLANTS IN POTS.—For the best twenty varieties, to Hovey & Co., 25 00

For the next best, not awarded, ... 20 00

For the next best, to Gustave Evers, . . . 15 00

For the next best, not awarded, ... 10 00

For the best ten varieties, not awarded, . . . $12 00
For the next best, to Thomas G. Whytal, . . . 10 00
For the next best, to James Murray, . . . 8 00
Specimen Plant.—For the best, to G. G. Hubbard, . . 8 00
For the next best, to Hovey & Co., . . . 6 00
For the next best, to Gustave Evers, . . . 4 00
Bouquets.—For the best pair for the Society's Vases, to Charles Copeland, ... 10 00
Dahlias —For the best fifty blooms, (Dahlias not being included in the premiums for Cut Flowers,) to Charles Copeland, . 7 00
For the next best, to Barnes & Washburn, . . 6 00
For the next best, to Antone Apple, . . . 4 00
Native Plants.—For the best display, not awarded, . . 3 00
For the next best, to Dennis Murray, . . . 2 00

GRATUITIES.

The Committee have awarded the following Gratuities for creditable displays during the season:—

To William C. Strong, for new gloxinias, . . . $5 00
do. do. for pelargoniums, . . . 3 00
do. do. for the same, ... 2 00
do. do. for displays, ... 17 00
do. do. for Gesneria cinnabarina, . . 1 00
To Hovey & Co., for camellias, ... 3 00
do. do. for Begonia Rex, ... 6 00
do. do. for pelargoniums, ... 4 00
do. do. for displays, ... 10 00
To Jonathan French, for the same, ... 1 00
" William E. Carter, for display, ... 2 00
" Antone Apple, for the same, ... 8 00
do. do. for fine displays, a bound copy of the Society's Transactions.
To James Nugent, for ericas, ... 3 00
do. do. for Amaryllis aulica, . . . 1 00
do. do. for displays, ... 9 00
To Thomas G. Whytal, for the same, ... 9 00
do. do. for fuchsias, ... 4 00
To Martin Trautman, for ericas, ... 5 00
do. do. for auriculas, ... 3 00
do. do. for displays, ... 7 00
To Gustave Evers, for the same, ... 17 00
" A. Bowditch & Son, for the same, ... 15 00
" G. G. Hubbard, for the same, ... 3 00
" Mrs. Benjamin Bruce, for hardy plants, . . . 6 00
" Barnes & Washburn, for displays, ... 1 00
" J. A. Kenrick, for magnolias, ... 3 00
do. do. for displays, ... 4 00

To William H. Spooner, Jr., for hyacinths, . . . $2 00
" Edward S. Rand, for displays, ... 6 00
" Edward S. Rand, Jr., for Tritonia aurea—specimen plant—a bound copy of Society's Transactions.
To Marshall P. Wilder, for display of roses, . . . 7 00
" E. G. Kelley, for magnolias, ... 1 00
" Dennis Murray, for collection of fungi, . . . 6 00
do. do. for native plants, ... 3 00
" J. W. Foster, for plants, ... 1 00
" E. A. Storey, for hawthorns, ... 2 00
do. do. for displays, ... 3 00
" Miss E. M. Harris, for baskets, &c., . . . 5 00
" James Murray, for displays, ... 12 00
" Charles Copeland, for roses, ... 4 00
" William J. Underwood, for pinks, ... 2 00
" Warren Heustis, for display, ... 1 00
" H. A. Fuller, for the same, ... 1 00
" John C. Chaffin, for the same, ... 1 00
" Miss E. M. Harris, for cornucopia, ... 2 00
" Gustave Evers, for Helerocentrum roseum, . . . 1 00
" Jonathan French, for ericas, ... 1 00
" Annie C. Kenrick, for baskets, ... 3 00
" Mrs. Richardson, for display, ... 1 00
" Francis Parkman, for roses, ... 3 00
do. do. for delphineums, ... 1 00
" George W. Wilson, for roses, ... 1 00
" Miss M. A. Munroe, for basket, ... 1 00
" Eben. Wight, for displays, ... 2 00
" Franklin Winship, for displays, ... 1 00
" B. K. Bliss, for pinks. 2 00
" Miss S. A. Russell, for basket, ... 1 00
" Thomas Walsh, for bouquets, ... 1 00
" John Kelley, for the same, ... 1 00
" Joseph Breck, for fine displays during the season, . . 15 00
" Mrs. Benjamin Bruce, for the same, . . . 5 00
" Antone Apple, for the same, ... 5 00
" William C. Strong, for Tritoma uvaria, . . silver medal.
" James McTear, for introduction of a seedling camellia, . 10 00

The following Gratuities were awarded at the Annual Exhibition:—

To William C. Strong, for gloxinias and plants, . . $5 00
" Hovey & Co., for new plants, ... 10 00
" Thomas G. Whytal, for design, ... 5 00
do. do. for passaflora, ... 3 00
" Martin Trautman, for dahlias, ... 2 00
do. do. for pansies, ... 1 00
do. do. for display, ... 3 00

To Miss E. M. Harris, for wreath,	$2 00
" Charles Copeland, for design,	2 00
" Mrs. William J. Underwood, for display,	5 00
" Warren Heustis, for roses,	2 00
" Annie C. Kenrick, for basket,	2 00
" Miss S. A. Russell, for bouquets,	3 00
" Thomas Walsh, for grass bouquets,	1 00
" Mrs. Thomas Walsh, for immortals,	2 00
" Edward Flynn, for dahlias, &c.,	5 00
" Frederick Lamson, for baskets,	2 00
" Mrs. William Kenrick, for display,	2 00
" Mrs. Abner Pierce, for wreath,	2 00
" Mrs. Jonathan Mann, for cone work,	10 00
" John Kelley, for palm,	5 00
" Miss Mead, for display,	2 00
" Mrs. G. F. Fiske, for display,	2 00
" James Freeman Clark, for balsams,	1 00
" Mrs. Mary Brookhouse, for grass bouquets,	3 00
" Mrs. E. B. Grant, for design,	3 00
" D. W. Lincoln, for leaf of Victoria regia,	4 00
" Joseph Breck, for cut flowers,	6 00

REPORT OF THE COMMITTEE ON FRUITS,

For the Year 1859.

BY HON. J. S. CABOT, CHAIRMAN.

The following is submitted to the Society, by its Standing Committee on Fruits, as their Report for 1859.

Before making an announcement of the award of the premiums, placed by the Society at its disposition, the Committee presume, that a compliance with a practice that has been adhered to for so long a time as to justify its being considered an established custom, will be expected of them, so far, at least, as to give the result of their experience and observation for the past year, with notices of any new fruits that may have been exhibited, together with such remarks, in reference to fruit and its cultivation, as may seem to them to be called for.

The fulfilment of this duty, in a manner at all satisfactory, is a task of no easy performance. In Reports of this character, always relating to the same subject and constantly repeated from year to year, there must necessarily be much of sameness, even if direct repetition is avoided. The subject admits of no attempts at display, or the announcement of anything strictly new to create or maintain an interest; for where, as is the case, the principles of cultivation are generally understood—and the proper application of these principles to practice, in particular cases, must, in a great measure be the result of experience—all increase of knowledge must be gradual, and no great or brilliant discoveries can be anticipated.

This is not an occasion to attempt anything like a treatise on Cultivation, but as it may happen that some particular course of treatment, either in respect to soil, manures, exposure or training, in the case of particular varieties, may have been noticed in the practice of the more successful cultivators, hints or suggestions in relation to such particulars may be considered not out of place.

This is believed to be a matter of some consequence, for there seems sufficient evidence that with some varieties some special treatment is requisite to obtain the greatest development and highest perfection of which it is susceptible; and it is on this account that the attention of cultivators is called to this subject. Take, as an instance, the Dorchester blackberries, as exhibited by Messrs. Nugent, Merriam, Foster, and other skilful cultivators, and compare them, for size and beauty, with those of the same variety grown under ordinary circumstances, and observe how inferior, in such particulars, these last appear, although these but a short time ago would have been thought the very acme of perfection.

There seems to be one class of Fruits, and they, too, not without a merchantable value, whose improvement appears to have been unattempted. Some of the indigenous berries of the country, as the whortleberry, blueberry, and thimbleberry or blackcap. These seem not unworthy of

attempts for this object, when the demand for them that exists, and the quantities—particularly of the two former—that meet daily with a ready sale in the market is considered; and there is no reason why such should not be as successful as in other cases of a similar character. Perhaps the system of Dr. Van Mons, as it respects pears, that of cultivating for a time the wild bushes, and when, by such cultivation, a disposition to vary or change had been created in the fruit, the planting of seeds—applied to these fruits—might produce favorable effects, and in the end result in the production of new varieties far superior to any now known.

The cultivation of Fruit has become an important interest, and whatever will tend to its advancement or to an improvement of varieties should be attempted; and there is no species, however humble, that is unworthy of efforts for this purpose, and none that will not repay them.

To some observations on the different species of Fruit as exhibited, and an account of their product for the past year, some statement respecting its principal meteorological phenomena seems an almost necessary introduction, and for this purpose the year is considered as commencing with the closing months of the preceding year, rather than at the usual period; as the liability of plants to injury from the winter, or their immunity from it, may in a great measure depend upon their condition growing out of the character of the autumn.

The autumn of 1858 was warm and wet, tending to produce a late and unseasonable growth in trees and plants, in the case of the latter, prolonging it up to the occurrence of severe frost. Strawberry beds showed blossoms for a second time, in some cases quite generally, and in some instances setting fruit; and pear trees, too, flowered a second time to greater extent, both in number and varieties, than had ever before been noticed. Indeed, to such an extent was this the case, that as late as November 7th some gardens might from this cause produce the impression of the opening rather than the closing season of the year.

The first frost, sufficient to kill the tender plants, for the season, was on November 11th, when a very severe one occurred, freezing the ground, and putting a stop to any further out-of-doors operations—that could not be resumed, from its uninterrupted continuance, until the next spring.

The winter, in its general character, may be represented as moderate and wet, with not much snow. Although, for three successive days, from the 10th to the 12th of January, the mercury fell to below 0; once, on the 11th, to 14° or 15° below, and in very exposed situations, as reported, still lower; probably as great degrees of cold as is ever indicated by a correctly registered thermometer in this vicinity, yet on no other day did it fall below 6°. The quantity of rain was greatly in excess, and upon falling, being immediately frozen, the ground became thereby covered with a thick coating of ice, and gardens and fields thus, in many cases, converted into skating grounds, that so remained for a considerable period, to the serious injury of their plants.

The spring opened propitiously, with every indication of being early. March was more mild than usual; its favorable prognostics, however, soon

vanished, and the weather became cold, stormy, and inclement, and so continued up to the last month of that season—this, although cold, had some warm, or rather hot days, causing vegetation to be exceedingly rapid, and exercising an almost magical influence by clothing almost instantly, in the space of a few hours, the apparently dead trees with foliage and blossoms. This warmth was, however, succeeded by cold and frosts, so severe on the morning of the 16th as to freeze the ground; that, occurring during the season of bloom, could not but have been of an injurious tendency to the succeeding crop of fruit.

The summer was cool with very few hot days, and, although on this account unusually pleasant and agreeable, had hardly the requisite amount of heat for some of the products of the soil. Its first month was wet, but after that dry, with no rain, except that of occasional showers, from June 25th to August 25th, when there was a copious rain.

A very severe frost occurred on June 6th, that in many places did much damage, killing tender vegetables and the foliage of trees; and very slight hoar frosts were reported as having been noticed in some places in each of the two succeeding months.

The first month of autumn, usually warm, seemed to correspond with the previous summer, was cold and unpropitious for several mornings early in the month, approximating to frost, and with the occurrence of one, on the mornings of the 15th and 16th, sufficient to injure or destroy tender vines, an event of rare occurrence so early in the season. An exceedingly high wind, on the 14th, blowing violently in squalls or gusts, was very destructive to the fruit, in many instances completely stripping the trees; this was followed, on the 17th, by a severe storm, with a high wind, that served to still further aggravate the injury. Frosts in every month in the year—the absence of hot days—together with the destruction to fruit, caused by high winds, taken together, may well make the present to be considered as the most unpropitious season to fruit growers that has occurred since the formation of the Society.

Much damage was done by the winter; in many cases it was disastrous. Pear trees, especially young trees in nursery rows, were seriously injured. The Bartlett seemed to have suffered more than any other variety. In some cases, where trees were not permanently injured, many of the leaf-buds were destroyed, causing the foliage in such cases, in the spring, to appear thin and weak. Evergreen trees, particularly the Arbor Vitæ, were much injured. Grape vines were very sensibly affected, not so much in their wood as in their buds—these seemed to be entirely killed—and they showed no foliage until that produced by latent buds pushing late in the season; this was the case with all the hardy varieties noticed, except the Concord and Hartford Prolific, that seemed to have escaped comparatively unharmed. Strawberry beds, even of hardy varieties, upon level ground, were in many cases completely destroyed; and some border flowers, in places where they had stood unharmed for a quarter of a century, were entirely killed.

Perhaps no one cause can be assigned for this general and wide-spread injury. In some cases it may be accounted for by the warmth of the fall

succeeded by the excessive cold of January 10th and 11th, as in the case of trees, shrubs and vines; while in others, as in the instances of injury to strawberries, and plants of a similar character, it was more probably the result of the ice with which they were so completely and for so long a time covered—for it was observed that where strawberry beds on level ground, and upon which the ice thus lay, were destroyed; those immediately contiguous, but on sloping ground, were comparatively uninjured.

As a compensation for its other unpropitious features, the character of the summer may be considered as peculiarly favorable to the growth of trees, this having been unusually strong and vigorous—the consequence, perhaps, of a temperature more than commonly equable and temperate, free from great and sudden alternations, giving, as is hoped, should no untoward events intervene, promise of fruitful seasons hereafter. Late in the season, in some instances, the pear trees became infested with that pest to gardeners, the red spider—to the serious damage of the foliage, and consequent injury to the fruit.

The weekly exhibitions of the Society have been continued as heretofore through the year; and, considering the character of the season, were such as to do credit to the exhibitors. Some of the earlier fruits, as strawberries and summer pears, were, perhaps, not quite equal in quality or quantity to those of previous years; yet any deficiency in either respect was more than supplied by the greater than usual superiority of others; plums being shown of remarkably fine quality by many exhibitors, in greater variety and quantity than had been the case for a long time before.

The Annual Exhibition of the Society was held in the Music Hall, and both in the quality and quantity of the fruit fully equalled the expectations of the most sanguine, and by its success fully justified, what by some was deemed a hazardous experiment, the attempt to make it so extensive; for neither the frosts and unpropitious weather of the summer, or the recent violent storms, seemed here to have left any traceable marks of their ravages. The only deficiency noticeable was of peaches, but of other fruits the display was, in general, fully up to the average of previous years, and the only drawback from its entire success was the weather, that for the whole week was very unfavorable.

Of forced fruits the quantity and number of exhibitors in the earlier part of the year were, perhaps, somewhat less than at the exhibitions of the same period in the previous year; while later in the season this diminution, if it existed, was entirely overcome. In the quality of the specimens, however, there was not at any time any falling off—many of these being very superior. Peaches were particularly fine. Specimens of the early and late Crawford, George 4th, and Coolidge's Favorite, were never surpassed at any of the previous Exhibitions of the Society, and have rarely, if ever, been equalled. Some Shanghai peaches, shown on Sept. 3, were very remarkable for size and beauty, and attracted much attention. The exhibition of grapes, both in number of varieties and quality of the fruit, compares favorably with those of past years. No new kinds calling for particular mention were observed. Mr. Allen finds his new hybrid particularly well

adapted for forcing; this is certainly a fine grape, although somewhat deficient in size, which at present seems to be considered all important. The vine Mr. A. states to be very hardy, but it is believed that it has never until this year produced fruit in the open air. In quantity and quality the strawberries, nectarines, figs, &c., were on an average with previous years.

Strawberries in small quantities were first shown on the 2nd of April, and in larger on the 9th; peaches on the 28th May; and grapes the 9th of April.

The amount of skill required to produce forced fruits in perfection, and the expense attending the erection of suitable structures and of the various operations requisite for this cultivation, necessarily limits it to some extent, particularly as the demand for such fruits, except it may be of grapes, at remunerating prices, is too restricted to offer much inducement for the attempt as a matter of pecuniary profit—yet there is a gradual advance made in this kind of culture, perhaps corresponding to that made in other branches of horticulture. Being in all its species objects of ornament and beauty exceedingly attractive by their rarity at the usually cheerless season of the year, and constituting, also, for those who can afford their enjoyment, a healthy and innocent luxury, the cultivation of forced fruits is as worthy of encouragement as any other object of art, and is deserving of the fostering care of the Society.

A species of cultivation somewhat analogous to that of forced fruits is, it is understood, becoming quite general in England, from whence it is being gradually introduced into this part of the United States—that of the culture of fruit of almost every species in pots in houses erected for the purpose, designated as Orchard Houses. This mode of cultivation seems to have originated with Mr. Rivers, of Sawbridgeworth, Herts., and is now practised on an extensive scale in many parts of Great Britain, where it promises to become quite general.

Mr. Rivers' object was to contrive means, at a moderate cost, to neutralize the uncertainty of the English climate, and to create an artificial one approximating to that of the most temperate districts of France, and this he thinks to have effected by means of structures, cheaply built of boards, with glass roofs, either lean-to or span, not requiring much skill or attention to manage, and that, as they are adapted to many fruits, he says, may properly be called Orchard Houses. In these houses no fire heat is used, the climate being merely assisted by glass; and, in such, apples, peaches, pears, grapes, and other fruits, are grown on dwarf bushes, with a certainty of a crop. It was not until 1849 that Mr. Rivers commenced his experiments in relation to this mode of cultivation, that, according to his own statements, he seems to have brought to a quite perfect state.

Mr. Rivers gives a preference to boards over brick in the construction of these houses; because, he says, that he found them fiercely hot during the day in moderate sunshine, the evil effects of which were easily controlled by abundant ventilation, and agreeably cool at night without that stifling atmosphere peculiar to houses with brick walls, and in this rapid cooling down he thinks to make an approximation to the climate of the east—the

birth-place of our choice fruits—"say Persia or Armenia, where the winter is dry and very severe, and the spring dry with hot sun and piercing wind."

Forcing-houses may be constructed upon a similar plan, by simply placing a stove in the back border, and obviating the constant ventilation that takes place in the Orchard House through the cracks in the boards with which they are covered, by a double casing of boards, that answer admirably for strawberries and grapes.

These houses are beginning to be introduced into this part of the United States; some, it is reported, are built or being constructed in the vicinity of Boston, and there is one in a neighboring State known to be in operation; but the difference in climate between England and this country is so great that the mode of construction and management will require, as is supposed, that of which it is easily susceptible, essential modification.

In this country, where the thermometer often indicates 40 to 50 degrees of frost, the severe cold is an obstacle to successful cultivation; but in England, where it rarely marks half that amount, it is only protection against late spring frosts that is demanded; but as a compensation, the warmth and brightness of the summer here brings to perfection, in an open exposure, fruit that requires in England the protection of a wall or other artificial aid to properly ripen, where even the white currant, unassisted, does not attain perfect maturity.

What the modifications in the construction and management of the Orchard House, to adapt them to the wants and purposes of this country, should be, will readily suggest themselves in practice, or be taught by brief experience, and this does not seem to be the place or occasion farther to allude to them. Clear and minute directions for the construction of these houses, and for the management of the plants, have been published by Mr. Rivers in a short treatise, in pamphlet form, easily to be obtained, the whole of which, or at least all its essential parts, has been republished in recent numbers of the Horticulturist.

Houses of this description, even with such alterations as are necessary in this country, may be built at a comparatively moderate cost, and thus place it within the means of many who are now debarred of it—the enjoyment of what now is expensive luxury—besides opening a new branch of horticultural employment promising to be reasonably remunerative. Without some such means the crop of stone fruits has become so precarious as to receive but little attention, and in some species, as the apricot, the cultivation seems to be wholly abandoned, while in Orchard Houses this promises to become a successful culture, at least Mr. Rivers asserts that he is sure of a crop.

Under these circumstances, their introduction into this vicinity is a matter for congratulation; and it is hoped that the experiments commenced will be thoroughly tried, and no means neglected to insure a successful termination, so that every cultivator shall have it in his power to add to his garden or grounds, at a moderate cost, that which will be alike useful and ornamental—a house where the obtaining a crop of fine peaches, grapes, and other fruits, may be reasonably certain, to be converted if it is desired

wholly or in part into a structure for forcing them, out of season; and even for furnishing roses or other choice flowers.

STRAWBERRIES.

The first strawberries of the season, grown in the open ground, were shown on June 11th, the exhibitor stating that he picked ripe berries from the same vines on the 4th, and for the second time on June 18th. In both cases the variety exhibited was the Jenny Lind, that seems, from year to year, more fully to establish its character as a very early sort, and in other respects to confirm all that has heretofore been said in its favor, as being a handsome, hardy, prolific variety, of good quality.

Two seedling strawberries were exhibited during the season,—one by Mr. J. W. Manning, and the other by Mr. Isaac Ellis. The strawberry shown by Mr. Manning originated on the farm of B. F. Cutter, Pelham, N. H., it having been found near a bed of good kinds, and it was called by him the "Cutter." It was a large berry, of a light color, regular, conical shape, and sweet,—probably an accidental seedling of some large variety. Mr. M. stated that it was a staminate, very hardy, a strong grower, and very productive. The one exhibited by Mr. Ellis was also a large strawberry, of light color, and regular, conical shape and pleasant flavor.

The raising of seedling strawberries is not attended with any difficulty. Seeds of any of the large and good varieties will, in almost every case, produce some new kinds of good quality; but the mere multiplication of varieties is an object of very doubtful utility, and it is thought that the cultivation of no new kind should be recommended, unless it possesses some valuable property not appertaining to sorts already in cultivation.

The "Wilson's Albany," a variety that has been highly commended in many quarters particularly for its productiveness, was exhibited in considerable quantity. Those shown were very large berries, of a conical shape, dark colored, and very acid, and did not, on trial, commend themselves for their quality to the Committee. Too little experience has yet been had here with this variety to justify the expression of any very decided opinion with respect to its merits.

Hooker's Seedling was shown, and was likewise a large, dark colored berry, acid, but high flavored, and, in this particular, was preferred to the Wilson's.

Peabody's Seedling, also, was exhibited, and though large, and of attractive appearance, was thought to greatly lack richness and flavor.

The older varieties, as the Brighton and Boston Pine, and Hovey's Seedling, seem, so far, to maintain in the opinion of cultivators their wonted superiority,—at least, judging from the exhibitions made of this fruit.

In Belmont, where the cultivation of the strawberry receives great attention, it is said that the kinds most depended upon are the Hovey's Seedling, with the Brighton Pine; this last is considered by the growers there to be peculiarly adapted to be a fertilizer for the former, as blossoming at the same season.

"Walker's Seedling," that may now be considered among the older sorts

and of whose merits a favorable opinion was expressed about the time of its introduction, seems to be receiving more attention, and, in some quarters, has received high commendations. At a meeting of the growers of this fruit in a neighboring town, a resolution was adopted recommending it for general cultivation; and in New Jersey, it had previously received recommendation of a similar character.

Some of the large English varieties were exhibited, and, as usual, were in appearance very attractive,—as the Scarlet Nonpareil, Magnum Bonum, and Sir C. Napier; also an American sort named Brincklé. An opinion has already been expressed in a previous Report, that the English and other foreign strawberries are not suited to American cultivation. This opinion has undergone no change.

The crop the past year must be considered poor; in many places the plants having been greatly injured if not destroyed by the winter. As a consequence the exhibitions of this fruit have been injuriously affected. As an instance of the effect of skill in its cultivation, Mr. W. H. Locke, of Belmont, a large cultivator of it, raised the past year, from two-fifths of an acre, 2,115 boxes of strawberries,—the kinds as set having been of Hovey's Seedling four-fifths, and of Brighton Pine one-fifth.

CHERRIES.

The crop of cherries was much diminished by the unpropitious weather of the spring; yet the specimens exhibited have been of a more than usual superior quality. They were first shown July 2.

The only new or little known varieties of cherries noticed as calling for any special observation, were the Monstreuse de Mezel and the Cumberland. The Monstreuse de Mezel is a very large cherry, dark colored, sweet and spirited, and was pronounced, on trial, to be of very superior flavor. The Cumberland is an American variety, brought out by Dr. Brincklé. It is a large, dark-colored fruit; flesh rather solid, and is rather acid. The other varieties exhibited were those usually shown,—such as the Black Tartarian, Napoleon Bigarreau, and Walsh's Seedling, of which the specimens exhibited were exceedingly fine and of great beauty,—together with other known sorts.

RASPBERRIES.

The varieties exhibited were such as have heretofore been spoken of and described, and whose qualities are known to fruit-growers. These were shown in the usual quantity, and of perhaps more than the usual quality. The varieties principally cultivated are the Knevet's Giant, the Franconia, Brincklé Orange, with, to some extent, the Catawissa.

CURRANTS.

No new currant was exhibited. Although, as has been before stated, there seems to have been a great improvement effected, particularly in regard to size, in this fruit, and it is probably destined to still greater, yet those old favorites and acquaintances, the Red and White Dutch, still main-

tain their standing with cultivators. As an evidence of what can be effected by skill and management, specimens of each of these were exhibited the past year, almost rivalling, in size and beauty, the La Caucase, the Versaillaise, and other new sorts.

GOOSEBERRIES.

The exhibition of gooseberries was better the past year than for several years before, and both specimens and varieties were more numerous. The show of this fruit on July 23d and 30th, was highly creditable, alike to the exhibitors and the Society. The gooseberry is not a favorite fruit with American cultivators, and does not, perhaps, receive as much attention as it deserves.

BLACKBERRIES.

The blackberries exhibited consisted almost exclusively of the Dorchester; and this variety seems to monopolize the attention of growers in this vicinity. The specimens this year have been very large and exceedingly fine,—25 berries, on one occasion, weighing 6¾ ounces; and the exhibition, as made on August 13th, was pronounced by all who witnessed it, superior to any other of this fruit ever made in the Society's Hall.

PLUMS

Have been exhibited this year in much greater quantity, and of much better quality than has been the case before for several years; indeed, the exhibition of this fruit, as made this year, would bear a not unfavorable comparison with those made many years since, before the trees became as diseased as they now are. Accounts from various parts of the country all concur in representing the crop of plums as abundant, and of fine quality. The specimens shown have generally been of well-known varieties, and no remarks concerning them seem now called for; unless it be to state that those of the Jefferson, MacLaughlin, Sharp's Emperor, Diamond, Columbia, and Duane's Purple, were very remarkable for size and beauty. It is, however, to be feared that this revival is but temporary, and that the trees are not recovering, though it may be that they are.

PEACHES

Unfortunately afford no opportunity for remark. The crop may be said to be a total failure, hardly a blossom, even, was seen,—the result, doubtless, of injury from the winter.

GRAPES,

As has already been said, suffered severely from the winter, the fruit and leaf-buds being killed; and although some of the hardy varieties—as the Concord and Hartford Prolific—suffered less, and that some fine grapes of other varieties have been exhibited, yet the crop generally must be deemed to have failed. Although it is common to hear varieties spoken of as hardy, yet it is doubtful whether there is any kind of the cultivated sorts sufficiently

so to undergo the severity of this climate with perfect impunity; that is, there is reason to think that all of them would be benefited by some protection, that which would not involve much trouble or expense. Mr. Allen's Hybrid bore fruit with him this year for the first time in the open air, and it is now hoped that the adaptation of this variety to general cultivation may soon be thoroughly tested and ascertained. Mr. Allen states that, in his experience, it is as hardy as any of the approved sorts. Should it prove so generally, as there seems to be no difference of opinion with respect to its superior qualities as a fruit, it is but fair to presume that it must become a very general favorite, and supersede some, in general estimation, whose going out was heralded by loud praises. As no opportunity has been afforded the past year for any personal experience with respect to grapes, so there is no opportunity for any observations in regard to this fruit in addition to those of the Report of the past year; the opinion then expressed of the superiority, at present, of the Delaware and Diana to any other varieties, for general cultivation, being still entertained. The raising of grapes for the few past years has been attended with one difficulty, that, if it is to continue, and become permanent, and not to be controlled or obviated by remedial agents or measures, promises to become insuperable; that is, the mildew, supposed to be the same as the *oidium* of France. As it seems to be disappearing in Europe, there is reason to hope here, too, for its cessation. Perhaps, like some diseases that afflict the human frame, it has an appointed course to run, and then to disappear,—returning again, it may be, at intervals; or, what is perhaps more probable, that caused by the series of wet summers that have prevailed lately, with a return of dry ones its ravages, if they do not wholly cease, may become comparatively of small account.

At the annual exhibition, specimens of the Bowood Muscat, a new hothouse grape, were shown. In form of the berries, their size and color, it bears a very strong resemblance to the Cannon Hall Muscat; but, it is stated, possesses a decided advantage over that variety in this, that it sets its fruit freely. The Barbarossa and Allen's Hybrid were also again exhibited. The Committee were of opinion that the show of hothouse grapes had rarely, if ever, been surpassed at any previous exhibition of the Society.

Some new hardy Seedling grapes were also exhibited; among others the Perkins, a seedling from Bridgewater. The berries were of good size, of a light amber color, that seemed to be juicy, of a sprightly flavor, without much pulp. And the Dracut Amber, also a new seedling, with berries of a good size, or large, in color of a dark amber; that, too, was juicy, and without much hard pulp. The season for grapes has been too unfavorable to justify the formation of any decided opinion with respect to the merits of any of these grapes; besides that, no sufficient opportunity of testing them for that purpose has been afforded.

Specimens of the Massachusetts White were also upon the table. They did not appear to be ripe; and what is said with respect to the varieties named above, regarding the season, and the want of opportunity of testing

them, is applicable to this variety also; but yet, as much has been said respecting it,—and some opinion in regard to it may be perhaps expected,—it is felt to be a duty to state that, in a cursory and slight examination, no superiority over many of the common wild grapes of the country was indicated, and it is not believed that it will prove to be worthy of any cultivation.

At the first weekly exhibition, subsequent to the Annual Exhibition, many grapes were shown, and among them some new seedlings. Of the quality of these, it is not intended to express any decided opinion,—it would be premature to do so, if there were not other sufficient reasons to prevent it. Among them were the following:—

J. F. Allen's Hybrid Seedling, No. 13. A rather small, oval-shaped, dark purple grape, with a thick skin,—a probable indication that it will keep late; it was of a very sweet, pleasant flavor. Mr. A. considers it perfectly hardy, but it has not ripened out of doors. Mr. Allen also showed the Early Amber,—a light, amber-colored grape,—and the McLean. This last was a small berry, in appearance almost exactly like the Clinton, and like the Clinton acid. A grape was also exhibited called the Framingham Seedling, from Mr. G. Morneburg, of Saxonville, said to be a seedling from the Isabella, and it seemed to the Committee to be a reproduction of that variety.

Mr. J. W. Manning, of Reading, showed a grape without name, only described as a native. It was a dark amber-colored grape, sweet, without much hard pulp, or the peculiar foxy flavor that generally attends native varieties.

APPLES.

The crop of apples in the vicinity of Boston must, for the past year, be considered as below an average. Indeed, the Baldwin variety is so extensively cultivated, that on alternate years, when this variety does not bear, as was the case the present year, from that cause only the quantity of the crop is sensibly affected; independent of this, however, the bad weather, frosts, and storms, have told seriously to its injury. There were many fine specimens and varieties of this fruit upon the tables at the Annual Exhibition; although, perhaps, not as many as on some previous similar occasions. No new varieties have been noticed as calling for any particular observation. The number of varieties of apples is already so large, and is also being constantly increased by new seedlings from different parts of the country, that, to become acquainted with them, so as to be able to identify them, has become almost an impossibility; while, to obtain a knowledge of even those kinds that have been for some time in cultivation, and whose merits have been tested and described, is a work of no small labor. This is a difficulty that must be expected to increase, and the result in the end probably will be, that, in each section of the country, of limited extent, different varieties, such as are found suited to them, will be grown, and only a limited number of kinds, whose superiority will be generally acknowledged, will be objects of general cultivation.

PEARS.

The quantity of pears in this vicinity during the past year must, on the whole, be considered much below an average. There has, however, been great variations in this particular; for while in some gardens the crop has been almost an entire failure, in others, not far distant, it was in usual abundance,—probably owing, in a great measure, to a difference in exposure, and to the amount of protection the trees received. The frost, on the morning of the 16th of May, when, in some exposed places, the mercury fell to 30°, at a time when the trees were just in a state to be most injuriously affected, told with killing severity upon their production of fruit. Subject to such trials, it may be well for cultivators to note those varieties that have undergone the ordeal with the least apparent injury; for it is believed, as will be subsequently stated, that to select the hardy, vigorous kinds of this fruit, will have an important bearing upon the profits of its cultivation, and that those of weak and feeble habit should be rejected as unworthy of attention.

Some new or little known varieties of pears, have been exhibited principally at the Annual Exhibition. As these had in many cases been picked green, and when it was otherwise, as but a slight opportunity was afforded of testing their quality, no opinion of their value should or can be expressed. A mere enumeration of their names, with a very general description of their form, color, &c., is all that will be attempted; further trials must be made before coming to any decision as to the rank they should ultimately occupy. Among such were the following:—

Willermoz. Large, handsome; smooth, green skin, with blotches or stripes of red in the sun; of a pyriform shape, rather drawn in at the stem and calyx.

Gideon Paridant. Small, smooth; yellow skin, nearly covered with russet; pyriform, with no depression or basin either at the stem or calyx,—a juicy, sweet, rich fruit.

Henri Van Mons. Medium size, smooth, green skin, with bright red in the sun; no depression at stem; calyx large, in a very small and shoal basin.

Auguste Van Kraus. Yellow skin, with blotches of russet; of a flattened, obovate form.

Colmar Artoisonet. Large, green, with red in the sun; of a flattened, obovate form.

La Inconstante. Rather small, pyriform shape.

Alphonse Kars. Small, green skin, with some russet,—pyriform.

Josephine Imperatrice. Small, green, with a little red in the sun, flattened obovate form, and long stem.

Kossuth. Large, green, with some red in the sun, pyriform, calyx open in a shoal basin.

Beurré Chatenay. Rounded obovate, medium, rather rough, green skin, with some red in the sun; short, thick stem.

La Juive. Medium size, obovate, green skin, very slight depression at stem and calyx.

Alexandre Lambré. Rounded obovate, green, calyx large, open in a shoal basin.

Fulvie Gregoire, (not Fulvie Nouvelle.) Small, rounded, green, with some russet, red in sun, calyx prominent, stem little on one side.

St. Vincent de Paul. Of medium size, pyramidal form, yellow skin, red in the sun.

General Bosquet. Large, obovate or elongated obovate; smooth, yellow skin, nearly covered with russet, and some red in the sun,—exceedingly attractive in appearance.

Where descriptions are so brief and imperfect, it would be useless to add further to the list; especially as it is doubtful if it can subserve any useful purpose. It may, however, be stated that, besides the above, several new seedlings of the first year were exhibited; that, should they come up to what they promise, will be described on some subsequent occasion.

As so many cultivators, in the vicinity of Boston, make of the pear an object of engrossing attention, or of paramount importance, remarks of a somewhat more extended character in relation to this fruit seems called for on the present occasion, by this circumstance, than is felt to be necessary with respect to other species, that, equally valuable, are not so much objects of general interest.

The pear is a delicious fruit, and in some respects justifies the preference it appears to enjoy; indeed, there is no fruit superior to a luscious, juicy, melting pear, and none that is more generally esteemed; and yet, for New England cultivation, in actual value and real importance, it must, it is believed, yield precedence to the apple, especially as this last must be regarded as a product not only of horticulture, but of agriculture.

Although it is a fact generally understood, yet, as it seems necessary for the present purpose, a repetition of it will perhaps be excused. At the close of the past and commencement of the present century, an impression existing that most of the varieties of the pear then generally cultivated were so infected with the vices and diseases incident to a very prolonged existence as to be fast becoming, if not already unfit for farther propagation, that an attempt was resolved on for the resuscitation of the species.

The pioneer in this attempt, if not the originator of the idea, was Dr. Van Mons of Belgium, who, acting upon a theory established in his own mind as the just deduction from acknowledged principles, or the result of his own conclusions, believed that by raising seedlings for several successive generations, from the hardy wild pear, he should in the end produce new varieties, that, free from disease, would produce fruit of superior quality.

To an attempt at a realization of his idea Dr. Van Mons devoted his time and energies, prosecuting it with a patience and perseverance almost without a parallel, until in from the sixth to the eighth generation in regular successive descent of his seedlings he attained to a confirmation of his theory and the fruition of his hopes and expectations, in the production of

numerous varieties of new pears, that for quality are, down to the present time, considered as standards of excellence.

The success that attended the efforts of Dr. Van Mons naturally caused much excitement with horticulturists, and induced similar attempts on the part of others, who thus became his associates and co-laborers, most of these however contenting themselves with the sowing promiscuously the seeds of varieties already improved, in some instances, perhaps, of those recently originated by Dr. Van Mons, and thus unawares carrying out his theory.

This object, so successfully prosecuted in Belgium and France, was not wholly neglected in the British Islands, where Mr. Knight, the then President of the London Horticultural Society, distinguished himself by producing several new varieties of fruit of different species. The method of raising seedlings adopted by Mr. Knight may be considered directly the reverse of that pursued by Dr. Van Mons, for Mr. Knight depended for success upon the artificial cross impregnation of one variety with another, selected for the purpose. Although Mr. Knight succeeded in producing some varieties of pears that he deemed worthy of propagation, yet none of them are now held in much estimation; indeed, so far as is now remembered, with the exception of the Williams's Bon Chretien, or Bartlett, the Gansel's Bergamot, and perhaps the Dunmore, there are no pears of English origin that are held in much account in the United States.

The interest created by the production of these new fruits naturally led to their early introduction into this country, and, so zealously and uninterruptedly has efforts for this purpose been prosecuted, that there may now be found in the different collections round Boston almost every variety of the pear that has been thought worthy of propagation.

In addition to those of foreign, the collections of this country contain, too, many of domestic origin, such in most cases having been the result of chance or accident, though the raising of new varieties from seed has not been here wholly neglected or unrewarded, as is evinced by the marked success of Mr. Francis Dana of Roxbury, in originating new kinds.

From this it may be inferred, as is the fact, that the cultivation of the pear in this vicinity has not been confined to those whose qualities have been thoroughly tested and approved, but embraces a wide range of varieties, without much regard to the character of the tree for vigor and hardiness.

Heretofore an opinion has prevailed that on the seaboard, at least of Massachusetts, and perhaps New Hampshire, the soil and climate were eminently suited to the pear; that, although in reality an exotic, it having never been found as indigenous in any part of the United States, yet it had become so completely acclimated that it might be treated as a native, and that here, while the tree obtained a healthy, vigorous growth, the warmth and brightness of the summer, and especially the alternation from the extreme heat of the day to the coolness of the night in the latter part of that season, was calculated to the production of the fruit in its most perfect development and highest flavor.

That these flattering expectations with respect to the fruit were not

unreasonable there is abundant evidence, for certainly no pears of higher flavor and more beautiful appearance can be produced than those yearly shown at the exhibitions of the Massachusetts Horticultural Society. But, with respect to the former, the adaptation of our climate to the tree, some misgivings, or rather, perhaps, some disappointment in many cases begins to be manifested, at the failure of what was felt to be but reasonable anticipations with respect to this cultivation. Whether this disappointment is the effect of accidental causes, temporary in their character, and such as may be remedied or removed, or whether it arises from such as are inherent to the climate and situation, and thus impossible to be eradicated or controlled, is a question that is not yet capable of a definite solution, and cannot be, until the cultivation has been tested under all the conditions that, it may be, are necessary and essential to success.

If this is a matter that may be deemed in suspense, a difference of opinion will probably continue to exist as long as any uncertainty endures, such opinions taking their hue and coloring from the character and disposition of the different individuals. And while the sanguine and confident find a cause for a partial or total failure in some accidental circumstance, or some peculiarity of the year, the less confident and desponding will be apt to consider such peculiarity but the customary concomitant of the season, and find therein a fatal and insurmountable obstacle to success. If any delusion upon this subject has existed the sooner it is dissipated the better, for a continuance in error is always to be deprecated.

The introduction of the pear into this country dates from its earliest settlement by Europeans. There is now a pear tree in the town of Danvers that, according to reliable tradition, was planted by one of the earliest governors of the Colony more than two hundred years ago, and, although but the remains of what it once was, it has this year produced fruit.

Old pear trees, to ascertain whose age accurately, in most cases, no exact data exists, yet, whose planting must, from their size and appearance, certainly date back to a period more than a century ago, may be found scattered about, especially in the gardens of the older towns, as Salem, Medford, Cambridge, and Roxbury; those in Boston, where, otherwise, such would be no doubt most numerous, having been destroyed as the land was wanted for building or other uses. These trees are of course of the older, and, as is believed, of the more hardy varieties, as the Bon Chretien d'Eté, whose not very distant removal from the wild pear is indicated by its numerous stony concretions, the Orange, the Autumn Bergamot, and others of similar character.

Such facts seem to lend confirmation to the opinion of the peculiar adaptation of the soil and climate of this vicinity to the pear, and tends to fortify the position of those who maintain it. These may ask, if there are abundant instances, as are afforded by these old trees, of the pear continuing to flourish and to produce fruit for more than a century, in what are unreasonable the most glowing anticipations respecting its culture that have ever been indulged? Has the soil deteriorated? Has the climate become more rigorous and inclement? Certainly not; the soil is as fertile as formerly,

and if in some places it has become exhausted of the essential elements, there is abundance of it even yet virgin to the pear, and the climate, instead of having become more rigorous, has, if anything, been somewhat ameliorated, though it has probably undergone but little change of any kind, unless it may be that the average quantity of snow has diminished.

But, while it is not denied that the soil and climate is as propitious as formerly, it is believed that the character of the tree, in the modern varieties, has been essentially modified and changed by cultivation; that most of the fine varieties of recent origin are less hardy, have much less powers of endurance than the old varieties, of which those ancient trees consist. Although in but few, if in any cases, it has yet approached it, Dr. Van Mons seems to think there is a point beyond which cultivation cannot be carried, when the individual would be incapable of propagating its kind, its seeds would be abortive, and when the next stage must be death.

The pear, in its wild, and what may be considered as its normal state, is a shrubby, thorny, slow-growing tree, with rather small foliage, of close, compact, hard wood, coming late into bearing, that, in its cultivated or abnormal state, seems to undergo a complete transformation, and to become converted into a rapid-growing tree, generally free from thorns, with large foliage, not very compact or close-grained wood, coming early into bearing.

The fruit of the wild pear is small, hard, astringent with many stony concretions, and can hardly be considered as edible; while that of the cultivated tree is the delicious fruit so generally held in high estimation, becoming, in the last stages of high cultivation, a mere mass of pulp, filled with rich juice, entirely free from all stony concretions, even at the bottom of the stem.

It is only as the tree recedes from its type that the change occurs in the fruit—and the farther this remove is effected the greater is the change that takes place, in both tree and fruit. Dr. Van Mons thought that the time would come when pears, reproducing themselves by seed, or being all good when raised from seed, would be propagated in no other way, and that grafting and budding would be entirely dispensed with. And he considered that he had ascertained, in his own experience, that the farther his system of raising successive generations of seedlings was carried, the sooner the trees thus produced came into bearing.

How this great change in the tree has been brought about it is not easy positively to say. Dr. Van Mons believed that it was effected by no other agent than cultivation. That, although a wild pear would, when left in its natural state, continue always to produce its like from seed, yet if it was removed and subjected to the influences of cultivation, that the fruit would be thereby affected; that by sowing the seed of fruit in this disposition to change, a new and improved variety would be produced, and that by prosecuting this system, that is, planting seed of this seedling, and so on, for several successive generations, that the highly improved varieties, such as are now in cultivation, would be obtained. And in his own practice, and by the success that attended it, Dr. Van Mons seems to have established the truth of his theory. Yet, it is possible, that he did not take suffi-

cient account of a possible action of one agent in bringing about this change, that of hybridization produced by the winds or insects, that in a country like Belgium it would seem to be impossible to wholly avoid. If this supposition is correct, may it not be that the disease, as the canker or cracking of the bark and fruit, to which some of the new pears are subject, has been inherited from the old diseased varieties, in consequence of this hybridization?

But if cultivation has produced such favorable effects upon the fruit, and brought about this great improvement in its quality, its influence upon the tree has been of a much more questionable character, tending rather, as is believed, to the injury of its constitution, and bringing about a precociousness in bearing that has been obtained at the expense of its hardiness and its longevity.

The system of Dr. Van Mons, as practised by him, seems to have for its object the enfeebling of the tree, as, by planting the seed of immature fruit, and in promoting a rapid growth, by enlarging the sap vessels, and forming their whole vegetable tissue of imperfect matter, or, if this enfeebling was not the object, such seems to have been the effect. All cultivation of a tree puts it into an artificial condition, and a change so complete in its habits seems naturally an incident to disease, even when this cultivation is conducted with a view to the duration of the tree. But when, as is usually the case, this cultivation is directed solely to the production of the finest fruit, in the greatest quantity, without much regard to the tree, the supposed tendency to disease must be greatly increased.

If the views here suggested are correct, then the fact that pear trees of the *older* varieties, whose cultivation had not been carried to so high a point, have here lived, flourished, and borne fruit for a century, affords no conclusive evidence of the adaptation of our soil and climate to the *modern improved* varieties, and that such would thrive under similar treatment and in like conditions for anything like the same period; but, on the contrary, goes to show that instead of the treatment suited to a hardy indigenous tree, the latter will require that adapted to a somewhat tender exotic, in order to insure its existence and the production of its fruit in a perfect state.

The seaboard of Massachusetts, and perhaps New Hampshire, is probably the northern and eastern limit, beyond which the finest varieties of pears of modern origin cannot be cultivated, unless under peculiarly favorable circumstances, with much hopes of success, and indeed here this culture will demand the exercise of skill and judgment to overcome the obstacles with which it is attended. These obstacles grow, in a great measure, out of the character of the climate, its great extremes in opposite directions, of heat and cold, and those sudden and violent alternations from one to the other to which it is liable. In Belgium and France, that seems to be the paradise of the pear, the temperature is more equable, without such great extremes of heat or cold, and is, on that account, it is believed, more congenial to this tree.

In addition to the injurious tendency of the great difference in tempera-

ture to which the tree is here subject, another difficulty with which it has to contend, arises from the seasons of great and long-continued drought, as well as of excessive rain, that occasionally occur.

What is the moral to be drawn from these conclusions, assuming them to be correct? That we must abandon the cultivation of the pear? By no means. On the contrary let every man that owns a plat of ground suited to the purpose plant pear trees, according to his ability, to such an extent as to secure, as far as he can, an abundant supply for his family and less fortunately-situated friends—and let the owners of more extensive grounds appropriate a portion of the same, if by soil and exposure adapted to the purpose, to the raising of pears for the market, but let them in each case remember, that, to obtain success, something more is necessary than merely to plant the tree, and then abandon it to nature, subject, unaided, to all the influences of the seasons, but that this calls for the exercise of skill, unremitting attention, and the employment of every possible means to counteract and guard against the evil influences, growing out of the rigor and vicissitudes of our climate.

But, after all, the question in relation to this subject, of the most interest to cultivators, is, does, and if it does not, can the cultivation of pears be made to pay? For, although with amateurs, or those who pursue it for a recreation, or as an object of interest, the matter of profit or loss is a concern of no great moment, yet, with most who devote themselves to it, it is of great consequence, and no species of cultivation can or should be extensively, or for a long time pursued, that does not afford a fair remuneration.

In the Report of the Committee of the last year, this question was somewhat considered, and an opinion, guarded, to be sure, and somewhat qualified, was expressed, that thus far, if some few cultivators had, under peculiarly favorable circumstances, been successful, that, taken in the aggregate, the growing of pears had, in this vicinity, been attended with positive loss—but that, under proper and essential conditions, particularly with a suitable regard to varieties, it might be made moderately remunerative. Nothing has since occurred to induce a change of this opinion, but, on the contrary. it has the rather become strengthened and confirmed, though no more positive proof of its correctness can be adduced than was then offered.

In the absence of all reliable statistics, or accurate data, from which it would be an induction—opinions, let them be as they may, on a subject like this, naturally represent, or at least take their hue and coloring, from the personal experience of the individual, or are the result of information derived from, or of the experience of those with whom a familiar intercourse exists, never, perhaps, in any case, entirely reliable data upon which to found it.

The same rules and principles that require to be attended to in other species of culture are applicable to that of the pear, as the selection of a suitable exposure, the proper soil, the rendering it sufficiently fertile, together with the necessary amount of manipulation, and, especially if the view here presented of the character of the tree of modern varieties is cor-

rect, the influences of the great variations of temperature in this climate, with a range of 110° or more in the thermometer, so far as they can be guarded against or controlled. Should these and such other conditions as will in each case suggest themselves to the judicious cultivator be complied with, and especially with a careful selection of varieties, there is reason to expect as fair remuneration for labor and capital in the cultivation of the pear as in the culture of any other fruit.

As in agriculture, so in horticulture, an exclusive devotion to any one particular species of cultivation cannot be considered prudent or judicious, and the cultivator should adopt the raising of pears as one of the branches of his business, and not let it occupy his whole attention.

Opposite views to those here presented, with respect to the character of the pear tree, the profits attending its culture, and its adaptation to this part of the country, have no doubt many and able advocates, who sustain their opinions by facts and arguments that cannot be wholly denied or confuted; personal interests dictate the wish that such should be found in the end to be sustained by experience; but, as at present, such are believed to be erroneous, and that the expectations expressed are too sanguine to be ever realized, the expression of an honest opinion of a different character has been felt here to be a duty.

One proof, by which some who maintain that great profit is to be easily derived from the cultivation of pears, sustain their opinion, is the great price occasionally received for a few dozen of the fruit,—the sum obtained from the product of a single tree, and the price that they bear in the market when offered in considerable quantities.

Now such facts are, it is believed, as arguments in favor of a *general and extensive cultivation* of the pear, entirely fallacious, and, as facts bearing upon this question, of no importance whatever, indeed, that when analyzed they will have an opposite tendency to that intended. Price is the result of supply and demand, and is high or low according as one or the other is in excess. The high prices occasionally obtained, then, proves the inadequacy of the supply, and when the vast number of pear trees planted in this vicinity during the past fifteen or twenty years is considered, that the supply is inadequate proves perhaps as much the precariousness of the crop and the want of success that has attended the cultivation, as it does anything else. Besides, let the supply be what it may, the quantity to be sold at extravagantly high prices is very limited, and to commence an extended cultivation under the expectation of obtaining such prices, would not be much more judicious than for a farmer to devote himself to a crop that, unless at famine prices, would not afford a remuneration.

It will of course be understood, that what is here said with regard to the profit attending the growing of pears, is intended to have reference only to cases where that is made a business demanding the employment of capital and labor, and not to instances of a few trees of some hardy variety or varieties demanding but little care; and, where the expense is merely the first cost of the tree, and perhaps the annual value of the land they occupy, leaving nearly all their produce to be considered as profit. And so, too, it

will also be understood that it is intended that these remarks shall only be considered as applicable to the vicinity of Boston. Of the adaptation or unadaptation of the pear, to other and perhaps distant parts of the country, and of the profit or loss attending its cultivation in such, no personal knowledge is possessed, neither has any opportunity for forming an opinion upon either of these subjects been afforded, and none is therefore expressed. In a country, so extensive as the United States, with such a diversity of soil and climate, it can hardly fail to happen that different sections will require different objects of cultivation; that what succeeds in one may fail in others, and that this applies to pear as well as to other cultures.

It is apparent that in the preceding remarks great stress is laid upon a selection of varieties for cultivation. There is, it is believed, nearly or quite as much difference in the constitution, hardihood, and vigor of pear trees as of animals. While some are of hardy, vigorous, strong growth, others are weakly, and of feeble, slender habit, and this difference manifests itself in the first stages, and continues through all the periods of existence. In a climate like this, subject not only to such extremes, but also to such sudden alternations of temperature, as well as to such excess or deficiency of rain, it is important to select varieties, that, from their habit, will be most probably able to resist its vicissitudes. The character of the fruit too is also to be considered in making this selection; some pears of superior quality are so disposed to blight and crack as to be worthless; while others that are perhaps inferior to the best in quality, yet being always smooth and handsome are desirable.

As has been before said, this is not an occasion to attempt a treatise on cultivation. Yet, to name a few varieties, that, judging from past experience, will be, it is thought, most likely to give satisfaction, may not be out of place.

And first upon the list is placed that universal favorite, the Bartlett, that, although injured the past winter, has usually seemed to thrive in almost all places, and under almost all circumstances; and then the Golden Beurré of Bilboa, that seems hardy, is a good bearer, and in appearance exceedingly attractive, from its golden-yellow color; the Doyenné Boussock, a variety extensively cultivated in Belgium, desirable for its size and beauty, strong and vigorous on its own roots, but not suited to the quince. The Duc de Brabant or Waterloo, a strong-growing tree, and large fruit; the Louise Bonne de Jersey, and the Swan's Orange, an American variety, an exceedingly beautiful tree, with large fruit, of good, if not the best quality; the Merriam, the Adams, the Abbot and the Sheldon, all of native origin, and the Beurré Bosc, a fine tree, and very fine fruit—that may, as Autumn pears, all be safely recommended for cultivation. To these should be added, perhaps, the Beurré d'Anjou, the Beurré Hardy, and Duc d'Orleans, not yet thoroughly tested, but giving promise of being adapted to the purposes of American cultivators.

Of the Winter varieties, among the best may be placed the Winter Nelis, not a handsome tree, but a good bearer, a universal favorite, and generally succeeding. The Beurré Langelier, and Glout Morceau, both

very fine pears, and fine trees, and Vicar of Winkfield. This last, however, to be recommended for the exceeding beauty and vigor of the tree and its bearing property, rather than for the quality of the fruit, that although large, and when carefully ripened sometimes good, is more generally very indifferent. The Easter Beurré, the best of the very late-keeping varieties, in favorable situations, and the Columbia, a strong, vigorous, American variety, but whose large fruit is exceedingly apt to be blown off by the winds, in sheltered places, may also be worthy of attention.

In cases where not much attention can be bestowed on their cultivation, in the open country, in exposed places, the coarser varieties, those suitable for cooking only, are probably those that, as a matter of profit, will give the most satisfactory results, are perhaps the only ones that will at all do so, such varieties as the Truckhill Bergamotte, Uvedale's St. Germain, Spanish Bon Chretien, Vicar of Winkfield, and others of similar character.

In making awards of premiums the Committee are, by the Rules of the Society, restricted to its members. It may have been that cases have occurred where exhibitors have been precluded by this rule from awards to which they would otherwise have been entitled.

Reports to the Society from its several Standing Committees, except the Award of Premiums, are customarily, if not necessarily, prepared by their respective Chairmen, without much consultation with the other members. This has been the case on the present occasion; and although a desire and intention has existed to give, when such had been expressed, upon all matters of doubt, where a difference of opinion had occurred—the opinion of his colleagues rather than his own—yet, as such expression has rarely been made, no one of the Committee should be considered responsible for the sentiments herein advanced, when such do not commend themselves to the judgment, but the Chairman.

JOSEPH S. CABOT, CHAIRMAN.

Mr. Cabot, the Chairman, having sailed for Europe in October, the remaining members of the Fruit Committee deem it due to the public, that a more emphatic expression of opinion be given in regard to the "Massachusetts White Grape."

It was introduced by Mr. Watson of Plymouth, Mass., who described it as "the greatest acquisition ever made to our hardy domestic grapes," .... "the flesh is tender, juicy and melting, and entirely free from pulp." A vine, received directly from Mr. Watson, has borne fruit the past season, which has been exhibited before the Society. Other gentlemen have also fruited it, and state their fruit to be identical with that exhibited. There seems to be no good reason to doubt that the fruit is genuine. If so, it is rightly named. The woods of Massachusetts abound with grapes of similar quality. "Domestic" is an unfortunate adjective to apply to this variety, for, in the opinion of your Committee, it is far from being domesticated. It has ALL the strongly-marked characteristics of the Wild Fox or Bullet

grape, and is utterly unfit for cultivation. The quality of the fruit seems to be wholly irreconcilable with the description of the introducer.

Your Committee deem the case a marked illustration of the value of Horticultural Societies. The public should understand that a new fruit which shrinks from an exhibition, and has no certificate of character, should be received with caution. It should be a rule among nurserymen, that no fruit shall be received into the trade, and disseminated, until it has been exhibited before some responsible Society, or indorsed by responsible horticulturists.

C. M. Hovey,
W. C. Strong,
Wm. R. Austin,
James F. C. Hyde,
E. Augustus Story.

PRIZES AWARDED FOR FRUITS DURING THE SEASON.

For the best and most interesting exhibition of Fruits during the season, the Lowell plate, to J. F. Allen,	$15 00
For the next best, to H. Vandine,	10 00
For the next best, (not awarded),	7 00
APPLES.—For the best twelve Summer apples, on or before the third Saturday of August, to Bowen Harrington,	6 00
For the next best, to H. Vandine,	4 00
For the best twelve Autumn apples, on or before the third Saturday in November, to J. Eustis, for Boxford,	6 00
For the next best, to T. Clapp, for Gravenstein,	4 00
For the best twelve Winter apples, on or before the first Saturday in December, to J. W. Manning, for Hubbardston,	6 00
For the next best, to J. A. Kenrick, for Cogswell,	4 00
APRICOTS.—For the best twelve, on or before the third Saturday of August, not awarded,	
For the next best, not awarded,	
BLACKBERRIES.—For the best specimens, not less than two boxes, to James Nugent,	5 00
For the next best, to Galen Merriam,	4 00
For the next best, to J. W. Foster,	3 00
For the next best, to W. H. Barnes,	2 00
CHERRIES.—For the best specimens, not less than two boxes, to Wm. Bacon,	4 00
For the next best, to G. B. Cordwell,	3 00
For the next best, to James Nugent,	2 00
CURRANTS.—For the best specimens, not less than two boxes, to James Nugent,	3 00
For the next best, to Francis Dana,	2 00
FIGS.—For the best twelve specimens, to J. F. Allen, for variety,	3 00
For the next best, to Hovey & Co., for Nerii,	2 00
GOOSEBERRIES.—For the best specimens, not less than two boxes, to James Mitchell,	3 00
For the next best, to A. D. Webber,	2 00
GRAPES.—For the best specimens grown under glass, on or before the third Saturday in July, to Mrs. Durfee,	8 00
For the next best, to Joseph Breck,	6 00
For the next best, to Oliver Bennet,	4 00
For the best specimens grown under glass, subsequent to the third Saturday in July, to R. S. Rogers,	8 00
For the next best, to Geo. Nichols,	6 00
For the next best, to E. S. Rand, for B. Hamburgh,	4 00

For the best specimens of Native Grapes, to E. A. Brackett, for Concord, ... $6 00
For the next best, to G. B. Cutter, for Isabella and Concord, 5 00
For the next best, to C. E. Grant, for Isabella and Catawba, 4 00
For the next best, to F. Dana, for Diana, . . . 3 00
For the next best, to R. M. Copeland, for Isabella, . . 2 00

Melons.—For the best Muskmelon grown under glass, on or before the third Saturday in July, ...
For the best Muskmelon, open culture, on or before the third Saturday in September, to J. Crosby, . . . 2 00
For the best Watermelon, on or before the third Saturday in September, ...

Nectarines.—For the best twelve specimens, to J. F. Allen, 3 00
For the next best, ...

Praches.—For the best twelve specimens, grown under glass, on before the third Saturday in July, to C. S. Holbrook, . 5 00
For the next best, to J. F. Allen, ... 3 00
For the best twelve specimens, open culture, . . . none.
For the next best, ... do.
For the next best, ... do.
For the next best, ... do.

Pears.—For the best collection, not exhibited before this year, the Society's plate, ... none.
For the next best, ... do.
For the best twelve specimens Summer pears, on or before the third Saturday in August, to Francis Dana, . . 5 00
For the next best, ... not awarded.
For the next best, ... do.
For the best twelve Autumn pears, on or before the third Saturday in November, to Geo. Nichols, for Seckel, . 5 00
For the next best, to J. F. Allen, for Duchesse, . . 3 00
For the next best, to H. Vandine, for Marie Louise, . 2 00
For the best twelve Winter pears, on or before the first Saturday in December, to A. J. Dean, for E. Beurré, . . 6 00
For the next best, to R. W. Ames, for E. Beurré, . . 5 00
For the next best, to J. Eaton, for E. Beurré, . . 4 00
For the next best, to P. R. L. Stone, for W. Nelis, . . 3 00

Plums.—For the best specimens, not less than two boxes, to H. Vandine, ... 4 00
For the next best, to W. Bacon, ... 3 00
For the next best, to F. Dana, for Jefferson, . . 2 00

Quinces.—For the best twelve specimens, to T. Page, . . 3 00
For the next best, to J. W. Foster, ... 2 00

Raspberries.—For the best specimens, not less than two boxes, to J. W. Foster, ... 4 00
For the next best, to W. H. Barnes, . . . 3 00
For the next best, to W. R. Austin, . . . 2 00

STRAWBERRIES.—For the best specimens, not less than two boxes, to J. C. Scott, ... $5 00
For the next best, to Isaac Fay, ... 4 00
For an exhibition, a gratuity to F. Winship. . . 3 00
Third and fourth prizes not awarded.

GRATUITIES.

To C. E. Grant, for Duchesse pears, ... 2 00
To W. Bacon, for Swan's Orange, ... 2 00
To Dr. L. Mitchell, for Seckel, ... 2 00
To Wm. Butterfield, . . . Magazine of Horticulture.
To D. W. Lincoln, for Rostiezer, ... 2 00
To W. H. Pettengill, for Beurré Diel, . Magazine of Horticulture.
To J. F. C. Hyde, for Mountain gooseberries, . . . 2 00
To J. W. Foster, for new currants, ... 2 00
To Mrs. Corey, for R. I. Greening apples, . . . 2 00
To A. W. Stetson, for Seedling grapes, ... 3 00
To J. J. Mornburg, for grapes, . . Magazine of Horticulture.
To L. Hoar, for Hubbardston Nonsuch apples, . . . 2 00
To E. Brown, Lynn, for apples and pears, a large collection, Silver Medal.
To A. Bullard, for Isabella grapes, ... 2 00

PRIZES FOR FRUITS AWARDED DURING THE ANNUAL EXHIBITION.

APPLES.—For the best twenty varieties, twelve specimens each, the Lyman plate, to Thaddeus Clapp, . . . $20 00
For the next best, to A. D. Williams, . . . 15 00
For the next best, to James Eustis, ... 12 00
For the best fifteen varieties, twelve specimens each, to Hovey & Co., ... 12 00
For the next best, to Gustave Evers, . . . 10 00
For the next best, ... no award.
For the best ten varieties, twelve specimens each, to John Gordon, ... 8 00
For the next best, ... not awarded.
For the next best, ... do.
For the best five varieties, twelve specimens each, to W. W. Wheildon, ... 6 00
For the next best, to Bowen Harrington, . . . 5 00
For the next best, to J. A. Stetson, . . . 4 00
For the best dish of apples, twelve specimens of one variety, to Thaddeus Clapp, ... 5 00
For the next best, to W. W. Wheildon, . . . 4 00
For the next best, to N. H. White, ... 3 00
For the next best, to W. T. Andrews, . . . 2 00

PEARS.—For the best twenty varieties, twelve specimens each, to John Gordon, ... $25 00
For the next best, to William Bacon, . . . 20 00
For the next best, to Hovey & Co., . . . 16 00
For the best fifteen varieties, of twelve specimens each, to Henry Vandine, ... 15 00
For the next best, ... not awarded.
For the next best, to Gustave Evers, . . . 10 00
For the best ten varieties, twelve specimens each, to Wm. R. Austin, ... 10 00
For the next best, to Jesse Haley, ... 8 00
For the next best, to W. A. Crafts, . . . 6 00
For the best five varieties, twelve specimens each, to Jacob Eaton, ... 6 00
For the next best, to Francis Dana,. . . . 5 00
For the next best, ... not awarded.
For the best dish of pears, twelve specimens of one variety, to Wm. R. Austin, ... 5 00
For the next best, to John Gordon, . . . 4 00
For the next best, to Josiah Stickney, . . 3 00
For the next best, to John F. Allen, . . . 2 00

PEACHES.—For the best collection of not more than four varieties, no award.
For the next best, ... do.
For the next best, ... do.
For the next best, ... do.

PLUMS.—For the best collection of not more than four varieties, to Henry Vandine, ... 5 00
For the next best, ... no award.
For the next best, ... do.
For the next best, ... do.

GRAPES.—For the best five varieties, two bunches each, to Mrs. F. B. Durfee, ... 10 00
For the next best, to W. P. Perkins, . . . 8 00
For the next best, to J. F. Allen, ... 6 00
For the next best, ... not awarded.
For the best two varieties, two bunches each, to C. S. Holbrook, ... 5 00
For the next best, to Wm. H. Barnes, . . . 4 00
For the next best, ... no award.
For the next best, ... do.
For the best collection not less than six varieties, to W. S. Mansfield, ... 10 00
For the next best, to J. Breck & Son, . . . 8 00
For the next best, ... no award.
For the next best, ... do.

GRAPES, NATIVE.—For the best specimens, to R. Murray, . $5 00
For the next best, to J. V. Wellington, . . . 4 00
For the next best, to Hovey & Co., . . . 3 00
For the next best, ... not awarded.

GRATUITIES.

To Marshall P. Wilder, for collection of pears, . . . 10 00
To Joseph S. Cabot, do. do. . . . 10 00
To Samuel Walker, do. do. . . . 7 00
To Hovey & Co., do. do. . . . 10 00
To Joseph Breck, do. do. . . . 5 00
To P. R. L. Stone, do. do. . . . 3 00
To James A. Stetson, do. do. . . . 3 00
To S. V. Merritt, for pears from Mrs. Richardson, H. Chase, Silver Medal.
To Charles N. Bracket, Henry Davis, Nathaniel White, Rufus B. Stickney, Alfred C. Thacher, G. G. Hubbard, Wm. H. Barnes, A. J. Dean, Thaddeus Clapp, Charles Copeland, Lysander S. Richards, Warren Heustis, Wm. T. Andrews, Mrs. C. Valentine, and Amos Smith, each, . Mag. of Hort.
To Bowen Harrington, for a basket of fruit, . . . 3 00
To John G. Gilbert, for collection of apples, . . . 5 00
To Mrs. C. F. Chaplin, do. do. . . . 2 00
To Henry Emerson, do. do. . . . 2 00
To John Gilbert, for a dish; D. E. Jewett; Wm. Smith; S. G. Davis; J. H. Heald; W. D. Phelps; M. R. Fletcher; J. Munroe; G. Evers; J. A. Stetson; J. Reed; W. P. Parker; and Abner Peirce; for collection of apples, $1 each, . 13 00
To Mrs. C. F. Chaplin, for Native grapes, . . . 2 00
To J. F. Allen, for his new Hybrid grape, . . Silver Medal.
To C. E. Grant, for a pyramid of beautiful grapes, . . do.
To W. P. Perkins, for Bowood Muscat, . . . do.
To R. S. Rogers, for Barbarossa, ... do.
To T. W. Hunt, for Palestine and others, . . . do.
To Hovey & Co., for collection of Native grapes, . . do.
To E. W. Bull, for collection of Foreign grapes, . . 2 00
To N. Harding, J. F. Dodge, K. Bailey, T. Waterman, M. Cass, W. Ross, and G. B. Cutter, for grapes, each, . Mag. of Hort.
To C. S. Holbrook and Nathan Stetson, for peaches, $2 in publications.

REPORT OF THE COMMITTEE ON VEGETABLES.

For the Year 1859.

BY DANIEL T. CURTIS, CHAIRMAN.

The Committee on Vegetables offer the following Report of the doings in this useful department during the past year.

The weekly exhibitions of vegetables have not been quite as satisfactory as usual; and many of the premiums in the Society's list were not awarded. This was not owing to any lack of skill or loss of interest in the contributors to this department, but was the unavoidable result of the cold and wet of the first part of the season, which delayed many of the early varieties a week or ten days beyond the time allowed for competitors. The Committee have, therefore, awarded, to the best of their ability, gratuities in money and publications to the amount placed at their disposal.

In regard to new varieties presented as worthy of cultivation, may be mentioned the "Couve Tronchouda," from J. Breck & Son,—a Chinese plant similar in character to Pack-choi and Pe-tsai, resembling a cabbage in growth and flavor, but not yet sufficiently tested to enable your Committee to pronounce upon its relative value, except for its property of early maturity.

The Early Round Summer Parsnip, similar in form to the Turnip Beet, has lately been introduced from Paris, and promises to add another valuable member to the list of approved early vegetables.

The cultivation of squashes of some variety enters largely into the agriculture of all civilized countries; the golden representatives of some members of this extensive family are seen in autumn in almost every field, over the door, woodshed, or fence, or wherever its climbing tendrils have a chance to extend. Our exhibitions bear testimony to the extent of the culture of this favorite vegetable.

The Hubbard Squash, with its unattractive exterior, but with its orange-colored, dry, sweet, and chestnut-flavored flesh, still retains its supremacy in the family as the best of the Winter Squashes; in our markets it now bears the same relation to other varieties, as the Bartlett pear does to the Summer pear. *Whatever may have been its origin*, its introduction and extended cultivation are unquestionably due to the perseverance of Jas. J. H. Gregory, Esq., of Marblehead; he brought it to the notice of the Society and the country at large, and if future experience should confirm the present high opinion in regard to it, your Committee recommend that a special award be given to Mr. Gregory for the introduction of this valuable addition to our native vegetables.

The excellence and abundance of the varieties presented for premiums

at the Annual Exhibition, need only be alluded to by your Committee, who are of the opinion that no beets, carrots, cauliflowers, parsnips, squashes, &c., superior to those exhibited by Messrs. Josiah Crosby, Jas. Nugent, Josiah Stickney, Stone, Bowditch, and others, were ever seen at the Society's exhibitions at this season of the year. It would seem that the admiration bestowed by the public on the objects of this department would be in itself sufficient reward and stimulus to the exhibitors who contributed so largely, without the additional premiums and gratuities offered by the Society. We do not mean by this to deny the policy of offering tangible premiums, but only to show that both money and fame are the rewards of those who contribute to the more healthy and cheap sustenance of their fellow-citizens. We hope that even a larger appropriation in money may be placed at the disposal of the Committee for the encouragement of this most useful branch of agricultural industry, that they may be able to reward successful cultivation and improved methods and varieties, though the exhibited products may be small in quantity; and we wish to extend a welcome to producers, even when not members of the Society, who may have important improvements to communicate.

Trusting that the coming season will be a propitious one, and that a renewed interest will be manifested in this department, your Committee hope that contributors will not rest content with the good things already attained, but, adopting the inspiring motto "Excelsior" of a sister State, press forward in the race, relaxing their endeavors only when the goal of complete success shall have been reached.

PREMIUMS AWARDED AT THE WEEKLY EXHIBITIONS.

Asparagus.—For the best, to J. B. Moore,	$4 00
For the next best, to Geo. Everett,	3 00
For the next best, not awarded,	
Beets.—For the best early Turnip Blood, to Geo. W. Peirce,	4 00
For the best Long Blood, to Josiah Crosby,	3 00
For the next best, not awarded,	
For the best Winter Long Blood, to James Nugent,	4 00
Second and third premium not awarded,	
Beans.—For the best String, to Abner Peirce,	3 00
For the next best, to G. R. Sampson,	2 00
For the best Early Shelled, to James Nugent,	3 00
For the next best, not awarded,	
For the best large Lima, to Abner Peirce,	3 00
For the next best, not awarded,	
Cabbages.—For the best Summer, to Geo. W. Peirce,	3 00
For the next best, not awarded,	
For the best Savoys, not awarded,	
Carrots.—For the best early Long Orange, to Josiah Crosby,	3 00
For the next best, not awarded,	

Cauliflowers.—Not awarded,	
Celery.—For the best, to Bowen Harrington,	$3 00
For the next best, not awarded,	
Sweet Corn.—Not awarded,	
Cucumbers.—For the best under glass, to C. S. Holbrook,	4 00
For the next best, to T. W. Walker,	3 00
For the next best, not awarded,	
For the best open culture, to Bowen Harrington,	3 00
For the next best, not awarded,	
Egg Plants.—Not awarded,	
Lettuce.—For the best, to Thos. Walsh,	3 00
Next best, not awarded,	
Onions.—For the best, to Josiah Crosby,	3 00
For the next best, not awarded,	
Potatoes.—For the best, to Josiah Crosby,	4 00
For the next best, to G. R. Sampson, Early Blue,	3 00
For the next best, not awarded,	
Peas.—For the best early, to James Nugent, for Dan. O'Rourke,	4 00
For the next best, to Josiah Crosby,	3 00
For the best late, to Bowen Harrington, for Champion of England,	3 00
For the next best, to B. Harrington, for Marrowfat,	2 00
Rhubarb.—For the best twelve stalks, 25 lbs. Victoria, to J. B. Moore,	3 00
For the next best, to Barnes & Washburn, for early Prince Imperial,	2 00
Squashes.—For the best Summer, to G. W. Peirce, for Early Scollop,	3 00
For the next best, not awarded,	
For the best Winter, to Bowen Harrington, for Canada,	3 00
For the next best, not awarded,	
Tomatoes.—For the best, to G. W. Peirce,	3 00
For the next best, not awarded,	
Turnips.—Not awarded.	

GRATUITIES FOR FORCED VARIETIES PREVIOUS TO MAY 20TH.

To Samuel Flagg, for rhubarb,	1 00
Bowen Harrington, for celery,	1 00
Josiah Crosby, for lettuce,	2 00
Thomas Walsh, for the same,	2 00
C. S. Holbrook, for cucumbers,	3 00
A. Hatch, for asparagus,	2 00

GRATUITIES FOR VARIETIES TO THE WEEKLY EXHIBITIONS.

To Oliver Peirce, for early Turnip Blood beets,	1 00
To Jonas Gammell, for the same,	1 00

To Thomas Walsh, for beets and cabbages,	$2 00
To Wm. Bacon, for best string beans,	1 00
To James Nugent, for the same,	1 00
To A. Peirce, for shelled beans,	1 00
To Bowen Harrington, for large Lima beans,	1 00
To Josiah Crosby, for cabbages,	1 00
To P. A. Sweet, for Champion of America cabbage,	1 00
To A. Bowditch & Son, for Wuninstadt cabbage,	1 00
To John Foster, for Drumhead cabbage,	1 00
To A. Bowditch & Son, for cauliflowers,	4 00
To G. R. Sampson, for same,	4 00
To Josiah Crosby, for celery,	1 00
To Hovey & Co., for egg plants,	1 00
To A. D. Webber, for sweet corn,	2 00
To Josiah Crosby, for same,	2 00
To A. Bowditch & Son, for the same, late,	2 00
To Bowen Harrington, for Darling's Early corn,	2 00
To D. & G. F. Stone, for lettuce,	2 00
To A. Hatch, for the same,	1 00
To Augustus Parker, for the same,	1 00
To Bowen Harrington, for the same,	1 00
To W. A. Harris, for the same,	1 00
To G. W. Peirce, for onions,	1 00
To Augustus Parker for Chenango potatoes,	2 00
To Jonas Gammell, for the same,	2 00
To T. Smallwood, for potatoes,	1 00
To Wm. Wood, for Marrowfat peas,	1 00
To Augustus Parker, for early "Frank Weld,"	1 00
To T. Smallwood, for early D. O'Rourke,	1 00
To Thomas Walsh, for Prince Albert peas,	1 00
To Samuel Swetser, for rhubarb,	1 00
To Benjamin Bruce, for the same,	1 00
To G. W. Peirce, for the same,	1 00
To Bowen Harrington, for the same,	1 00
To Augustus Parker, for the same,	1 00
To Bowen Harrington, for summer squashes,	1 00
To James Nugent, for tomatoes,	1 00
To J. P. Clark, for the same,	1 00
To Bowen Harrington, for the same,	1 00
To " " for turnips,	1 00
To Abner Peirce, for the same,	1 00
To Josiah Crosby, for radishes,	2 00
To Dr. A. D. Miller, for cranberries,	2 00
To T. W. Walker, for sea kail,	2 00

PREMIUMS AND GRATUITIES AWARDED AT THE ANNUAL EXHIBITION.

Beets.—To Josiah Crosby, for Long Blood,	$3 00
To G. W. Peirce, for Turnip Blood,	2 00
Carrots.—To Josiah Crosby, for Long Orange,	3 00
To Geo. W. Peirce, for Short Scarlet,	2 00
Corn.—To A. Bowditch & Son, for Burr's Sweet,	4 00
To A. D. Webber, for the same,	3 00
To G. G. Hubbard, for the same,	2 00
Potatoes.—To A. Bowditch & Son, for varieties,	4 00
To H. A. Fuller, for varieties,	3 00
Parsnips.—To Josiah Crosby, for Long Dutch,	3 00
To Josiah Stickney, for the same,	2 00
Squashes.—To Josiah Crosby, for Marrow and Hubbard,	5 00
To G. W. Peirce, for the same,	3 00
To Josiah Stickney, for Marrow,	2 00
Turnips.—To Bowen Harrington, for Purple Top,	3 00
Tomatoes.—To Geo. W. Peirce, for round, smooth Apple,	3 00
To James Nugent, for the same,	2 00
Cauliflowers.—To A. Bowditch & Son, for Erfurt (new),	5 00
To Geo. R. Sampson, for Waite's Almy,	4 00
Cabbages.—To S. A. Merrill, for Drumhead,	4 00
To A. Bowditch & Son, for the same,	3 00
To D. & Geo. F. Stone, for the same,	1 00
Musk Melons.—To Josiah Crosby, for Green Flesh,	3 00
To Thomas Walsh, for the same,	2 00
To Josiah Stickney, for the same,	1 00
Water Melons.—Not awarded,	
Mammoth Squashes.—Not awarded,	
Pumpkins.—Not awarded,	

GRATUITIES.

Mammoth Squash.—To Andrew Porter (not a member), for fine specimen, 164 lbs.,	4 00
To Henry H. Hyde (not a member), for fine specimen, 136 lbs.,	2 00
To S. A. Merrill, for collection of fine varieties,	10 00
To D. & Geo. F. Stone, for the same,	6 00
To Hovey & Co., for the same,	6 00
To Geo. R. Sampson, for the same,	5 00
To J. P. Rand, for the same,	5 00
To C. Bailey for three designs from seed,	5 50
To Abner Peirce, for collection,	4 00
To Henry A. Fuller, for the same,	3 00
To A. Hatch, for onions,	3 00
To Bowen Harrington, for collection,	2 00

To James Nugent, for the same, ... $2 00
To D. Holmes, for potatoes, ... 2 00
To Thomas G. Whytal, for beets, ... 1 00
To Francis Dana, for squashes, ... 1 00
To A. Bowditch & Son, for the same, ... 1 00

Publications one year, to Geo. B. Cordwell, Horticulturist.

To C. S. Holbrook, James J. H. Gregory, S. V. Merritt, G. G. Hubbard, Hovey's Magazine.

To A. D. Webber, J. W. Foster, I. P. Clark, Philip A. Sweet, Josiah Stickney, Wm. H. Lumpkin, W. W. Linfield, Thomas H. Marston, Gardener's Monthly.

REPORT OF THE COMMITTEE ON THE LIBRARY,

For the Year 1859.

BY CHARLES M. HOVEY, CHAIRMAN.

The Library Committee beg leave to present their Report for the year:—

Since their last Report some valuable additions have been made to the Library; among which may be named Decaine's Fruit Guide, a new French work on Pomology, figuring and describing all the popular fruits; also, Mr. R. Thompson's Gardener's Assistant, the latest practical work on gardening generally.

The Library now is in very good condition. Several of the older volumes, having become much worn from constant use, have been rebound in the most substantial manner. The serial works, of which there are several, are all bound, and ready for the use of the members; and, through the exertions of Mr. Copeland, the Librarian, the Library is in excellent order.

Your Committee would be pleased to see the Library placed upon a footing commensurate with the standing of the Society; but the ill accommodations and the dampness of the room have not warranted the purchase of valuable books of reference, which the Society ought to possess. There is, however, some difference of opinion in the Committee as regards additions to the Library the coming year. In view of the sale of the Society's estate, and the probability that, for at least a year or more, it may be without a permanent location, some have thought the present appropriation ample, while others have been desirous it should be very considerably increased, and the Committee have requested your Chairman to ask for an appropriation of four hundred ($400 00) dollars.

REPORT OF THE COMMITTEE ON FINANCE.

BY JOSIAH STICKNEY, CHAIRMAN.

Receipts for 1859.

To balance brought forward from last year,		$107 10
" Dividends and interest,		1,048 00
" Rents from Store,	$1,200 00	
" " " New purchase,	1,050 00	
" " " Hall,	375 00	
		2,625 00
" Receipts from Mount Auburn,		5,758 67
" " " Annual Exhibition,		489 75
" " " Rose Show,		130 10
" Assessments collected this year,		700 00
" " Balance from last year,		337 00
" Half taxes returned,		215 00
		$11,410 62

Payments for 1859.

To cash paid Mount Auburn, (one half receipts,)	$2,879 34
" " Taxes,	611 10
" " Premiums and gratuities,	1,869 25
" " Salaries,	500 00
" " for Printing, binding, and advertising, (part belongs to last year,)	732 69
" " Expenses of Annual Exhibition,	1,094 88
" " Plate, Winter Street design, and legal fees,	350 00
" " Insurance to 1st April,	56 20
" " Mechanics' and miscellaneous bills,	803 02
Cash in the treasury,	2,514 14
	$11,410 62

Property of the Society.

Original and new purchase, (valued,)	$48,000 00
Permanent Fund,	4,000 00
Lyman Fund,	10,000 00

As follows:—

53 shares Boston and Worcester Railroad;

$4,500 in Bonds of the Pasumpsic and Connecticut River Railroad;

6 shares Boston and Maine Railroad.

Surplus invested:—

20 shares Portland and Saco Railroad,	2,000 00
10 shares Boston and Maine Railroad, (cost,)	720 00

Library, furniture, and glass, ...	4,000 00
	$68,720 00
Cash on hand, ...	2,514 14

The Society's indebtedness to Mount Auburn has been reduced by the payment, at the commencement of this year, of $2,879.34, leaving a balance of $6,129.15, which is to be immediately paid in full.

No change has been made this year in the valuation of the Society's property, the sale of which, although not yet completed, will show an increase of more than twenty thousand dollars.

The Committee cannot close this Report without bearing testimony to the continued fidelity and valuable services of our Treasurer. It is now ten years last June since Mr. Austin took charge of the funds of this Society. How much he has saved for us during that time it would be hard to tell, but we can all bear witness to his vigilant eye to our expenses, and his steady, reliable devotion to the pecuniary interests of this Society.

ZOOLOGICAL REPORT.

BY PROF. J. W. P. JENKS.

To the Members of the Massachusetts Horticultural Society—

GENTLEMEN:—In presenting a translation of the accompanying memoir, allow me to say, that I propose to make the investigation of the food of birds a study for years to come, under the auspices of our Society.

The general proposal is to examine and preserve both the stomach and contents of every species of bird inhabiting with us or in New England, with a view to arriving at some just conclusion in reference to the specific food of each during the different seasons of the year, and the consequent determination of the service rendered by each species in preventing the multiplication of injurious insects, and smaller animals. My brief experience teaches me to suspect that each species of bird has a specific mission in the above particulars, and that not only the strictly insectivorous, but the rapacious and granivorous, have their duties to perform bearing directly upon the matter of aiding the tiller of the soil in preserving the balance of favorable and unfavorable influences, from whatever part of the animal kingdom they may come. It will be a life-work, but, I trust, will give *yearly* results beneficial to science. The accompanying memoir will show how good a beginning has been made on the other side of the water in the exploration of this hitherto almost entirely unexplored field of Natural History.

A Memoir on the Alimentary Regimen of Birds, presented to the Imperial Zoölogical Society of Paris, by M. Florent Prevost, on the 21st of May, 1858; translated by Prof. J. W. P. Jenks.

Since the beginning of the present century Zoölogical science has made considerable progress by means of anatomical researches. A more complete knowledge of the organs has thrown upon comparative physiology new light, and has revealed, according to the species of animals, the most interesting variations in the accomplishment of their diverse functions.

But we must acknowledge that this mode of investigation throws little light upon some Zoölogical questions, and particularly those which concern the instincts and habits of animals. In respect to them it is necessary to follow another method in order to establish the facts, and the difficulty of seizing them, explains sufficiently why this part of the science, although it excites all the interest one can desire, is still so little advanced, compared with many others.

These remarks apply especially to the large class of birds. Endowed by the Creator with the most marvellous means of locomotion, denizens of the air, into which man hardly knows how to elevate himself and through

which he cannot direct himself at all, birds escape all persistent observation, although their habits present some facts worthy our careful consideration, as well in a purely scientific point of view as in respect to their relations to man. To consider only their creation in itself, abstracted from our wants and our interests, what more worthy the study of the naturalist than the regular migratory habits of the greater part of birds. What mysterious necessity, or what supreme will, guides across vast countries those flocks of birds which each year, at the same epochs, return—expected passengers and always faithful—along the coasts of our seas, in the gorges of our mountains, or through the length of our valleys. What necessity assembles, or disperses, according to the season, the individuals of the same species? All these questions can be elucidated only by observation; and their *solution* will require us to wait yet for a long time. But in compensation, each of the facts which are revealed to us has its immediate utility in making us acquainted with some new enemy of our harvests, or some hitherto unknown auxiliary which runs to protect them; for there exists a constant harmony between the instincts of animals and their mode of alimentation, and the search after their food exercises an immense influence upon their actions. To these two classes of ideas appertain the questions with which now for a long time I have charged myself, concerning the habits of birds; and in the hope of being useful, both to Ornithology and to Agriculture, I have followed during long years the observations which have appeared to me appropriate to advancing the solution. I must declare, first of all, that a labor of this kind cannot be considered as a finished work. By its very nature it demands to be *pursued*, and can give results in the least satisfactory, only after a prolonged application of the method which I have followed. It is especially this method, and its first results, which I desire briefly to make known to-day.

One can formularize, in the following manner, the questions to which my observations reduce themselves:—

1st. What are the causes of the changes in the alimentary regimen, which, following the seasons, one observes at home in many species of birds?

2d. Whence proceed these reunions, often considerable, of birds of the same family, or of the same species, at a single point?

3d. Why do certain birds quit, in a moment, our country to return soon, and that many times in the course of the year?

4th. What is the cause of these periodical emigrations, executed by certain species with a regularity which nothing seems able to alter?

5th. What are the species useful or injurious to the harvests?

6th. What are the species of exotic birds which it would be possible and useful to introduce and acclimate in our country?

The alimentary regimen, and the necessities which it creates for each species, seems to me to have a decisive influence upon the kind of habits which concern the preceding questions; and it has appeared that it would be of great interest to gather, at different periods of the year, the stomachs of all the birds which it might be possible for me to procure, to examine

the contents, to note down the exact result of this examination, with the date of the observation, and to preserve those pieces in order to form, in time, a collection by means of which one can in the future verify each of the registered facts. This collection, commenced by me more than thirty years ago, comprises, to-day, a considerable number of specimens, which I have disposed of for preservation in three different ways. The first consists of stomachs opened and dried, with their contents, then fixed upon cards, which bear, besides the name of the species of birds, the locality in which it has been killed or taken, the precise date, and, in fine, the name of the animals or of the vegetables whose fragments can be recognized in the stomach. The second mode of preservation has consisted simply in putting into little corked vials the stomach or its contents; the same mode of labelling has been employed. And, lastly, I have preserved duplicates of all in alcohol.

I have the honor of presenting to you some samples of pieces preserved according to one or the other of these processes. A glance at these specimens will suffice to convince one that the matter thus found in the stomach of the bird is not only almost always easily recognizable, but an attentive examination, executed by myself with the kind assistance of M. Boulard, entomological preparer to the Museum of Natural History, has also shown us that, in many cases, it is possible to arrive at great precision in determining the species which serves for the food of each bird. Insects offer great resources in this particular. Besides that we often find them entire in the stomach, it suffices only to dilute the contents in a liquid to recognize a good number of antennæ, jaws, lips with their feelers, feet, and often entire heads, and these fragments give the means of determining the family, the genus, and in some instances even the species. I ought to hasten to say, that, according to this report, the numerous collection which I have made, claims still a long work; but the materials exist, and, with time, I shall do all that I can towards interpreting them.

As to the stomachs of birds of which insects do not form their habitual nourishment, their contents offer certain difficulties which it is not impossible to surmount. Those which feed upon vertebrated animals possess in their stomachs parts of the skeleton of their prey, which permit determinations analogical to those of which I have spoken in respect to insects. It is often less easy to arrive at a precision satisfactory, when the birds feed upon animals destitute of hard parts; meanwhile, as in respect to many species I have been able to procure duplicates and triplicates of samples, comparative observation furnishes data sufficiently complete. In that which concerns the species whose alimentary regimen is vegetable, the granivorous would present great difficulties, if frequently the grains found in their crop, and even in their gizzard, were not perfectly susceptible of germinating—a fact which always permits, as there is interest in doing it, the recognition, with exactness, of the species of grain with which the bird has intermeddled. I ought to acknowledge that the greatest uncertainty exists when the stomach encloses only immature parts of vegetables.

In this case the determination can have sufficient value only when one has many pieces to study.

This work of determination is very long, and will demand of me still much time; on the other hand, the results to which I have arrived need to be presented under a form comparative, synoptical, and easily available. To this end I have drawn up a uniform table for all the species of birds; each copy of this table concerns a species whose name figures at the head. It represents a series of columns, of which each bears the title of an alimentary regimen; it is in these columns, and conformably to their title, that I have inscribed both the date of the observation and the indication of the objects found in the stomach. In fine, each of these tables contains a sufficient number of lines to register observations made during twelve months in the year, and at five different dates in each month.

Behold, at a glance, some of the preserved specimens and some of the tables; many others are in my hands, and bear indications more or less complete, but of which, the collection, as I have formed it, possesses data without the time necessary to make it complete.

I will terminate this memoir with the indication of some general results concerning the questions which I have suggested at the commencement of it. The studies which I have pursued after the method indicated above will establish the fact, that the same species of bird changes its food according to the age and season of the year. One will see by the series of stomachs preserved that the most part of the granivorous species are insectivorous in their immature age, and become such anew during adult age at each period of reproduction; an analogous fact is observed even in the species which, in the spring and the commencement of summer, devour buds and young leaves. Some birds of prey, truly carnivorous, also mingle insects in their food according to circumstances. It has appeared to me, upon the whole, that insects occupy in the food of birds a considerable part. This singular privilege can be attributed to the prodigious multiplicity of the latter, as well as to the analogy of their locomotion with that of birds. It is, in effect, at the moment when certain insects inundate a country with individuals without number, that, coetaneously, this very abundance seems to invite a crowd of different species of animals to feed upon them.

The common Hanneton (May bug) and some kindred species offers to us an example of this kind. When these insects appear in perfect condition we soon find their remains in the stomach of the greater part of the birds which inhabit our country at that epoch, and even in the stomach of more than one mammifer, from the humble field-mouse to the wolf, so habitually carnivorous.

In order to avoid entertaining you with hypothetical ideas, I will not speak here of the opinions which I have myself cherished in respect to the causes of these actions, although I am constantly preoccupied in investigating them. But one of their consequences merits notice. I am in course of proving that birds are in general much more useful than injurious to our crops, and that even in respect to the greatest part of the granivorous

species, the evil which is done to us at certain times is largely compensated by the destruction of insects which they accomplish at other times. It is important, then, that we do not destroy these species, but only divert them from the crops when they can injure them. Their destruction would permit, without counterbalance, the development of many species of insects more fatal still to agriculture. The study of the alimentary regimen has furnished me also some information which I believe useful in comprehending the reunions, the separations and periodical emigrations which are observed so commonly among birds. If there are some animals who easily accommodate themselves with food varied to the change of the seasons, others desire exclusively such food as nature offers to them only *periodically* in the same country, or in a manner continues to them under different climates. Many of the mammifers, whose food is of this kind, sleep and remain torpid during the unfavorable season. This curious phenomenon of hibernation does not exist in respect to birds, and it seems to be replaced by the act of periodical emigrations much less common among mammifers. I believe, in a word, that outside of the habits directly instigated by the necessities of reproduction, we arrive at the demonstration, that birds reunite, disperse, emigrate and travel conformably to the necessities of their alimentary regimen. Without citing in detail facts, of which the specimens I have collected furnish proof, I feel myself authorized to point out this general cause, whose demonstration can be given in a longer treatise, or furnished to the members of a committee who should wish to render the account of it themselves. There exists always a curious harmony between these passages of diverse species of birds in the same country; inasmuch as they succeed one another in order to subsist according to the seasons of the resources which are adapted to their wants. Thus, everyone knows how it is with birds, of which numerous bands return in the spring into our climate in order to give themselves to the reproduction of the species. It is a somewhat precise study to perceive clearly, how, agreeably to the successive development of certain vegetables or of the hatching of certain insects, the different species of birds emigrate in order to enjoy in turn food produced for them and their young.

The birds of the spring-time arrive from the East and the South whose more gentle winter has nourished them; but when the cold is renewed in our country, if they return towards the warm climate, it is only to give place to other emigrants from the polar regions. The waders and swimmers of the arctic zone have incubated in the North during the summer, and emigrate during the winter into our country to find the food which the ice of the polar regions cannot offer them. The examination of the stomachs of certain birds has made me acquainted besides with a fact worthy of being noticed. At certain epochs, there are some species which are submitted to prolonged fastings; their stomachs contain then no alimentary matter, but habitually foreign bodies which are not digested. More frequently there are feathers of the bird itself, forming a voluminous ball, which keeps the stomach dilated. The different species of the genus

Grebe offer particularly this fact during the winter months, when the earth is hardened by the frost.

I shall add a word only upon the practical importance of researches in this direction. All agriculturists are interested in being acquainted with the precise alimentary regimen of the species of birds which, according to their seasons, spread themselves over their lands. In this view, the facts in detail have a value wholly special, but I can only announce here this general view, the evidence of which every one may become possessed of. It is necessary to say, in one word, for the benefit of all, that the agriculturist cannot destroy a bird without knowing that he can expect thereby only injury. This result can be attained only when naturalists themselves become pertinently acquainted with the facts relative to alimentation. The labor which I have wrought has appeared to me to tend to this result, but it will be necessary to multiply it in respect to a great number of species and in different countries. All that it will be possible for me to do in this respect, I shall do with the aid of the materials which I have collected and with the means at my disposal. I desire that other naturalists, giving themselves to studies of this kind, may bring to the question the indispensable coöperation of a certain number of observations executed in circumstances sufficiently various.

I cannot end this memoir without profiting by the occasion which it offers to me of expressing publicly my gratitude to the persons who have kindly aided me in this work by permitting me to follow my observations in the forests and domains of the crown, placed successively under their direction. I owe especial thanks to Messrs. Baron Lahune, Conservator of the Forests of the Crown; Empis, of the French Academy, director of the domains of the civil list, actually administrator general of the French Theatre; Defos, chief of the bureau of the forests; as well as to General Ney, prince of Moskowa, first huntsman of his Majesty the Emperor; Messrs. Marquis Toulongeon; and Baron Lage, captain and lieutenant of the imperial hunting.

MEMORIAL TO THE LEGISLATURE.

At a regular meeting of the Society, held December 31, 1859, Hon. Marshall P. Wilder submitted the following paper as embodying facts which might be used in a Memorial to the Legislature for a reservation of lands on the Back Bay.

It was then voted that the Committee now having charge of this matter be instructed to present the subjoined petition.

To the Honorable Senate and House of Representatives in General Court assembled:

We, the undersigned, a Committee of the Massachusetts Horticultural Society, respectfully petition your honorable body in aid of a General Memorial now before you, for a reservation of lands on the Back Bay, on which may be erected a structure, or structures, for the accommodation of societies devoted to the advancement of Horticulture, Agriculture, and the Ornamental Arts; and to Science in its application to the various purposes of life.

The interest manifested throughout our country, in all the departments of Horticultural science, is, in a great measure, to be traced to the establishment of the Massachusetts Horticultural Society.

For more than thirty years this Association has been actively engaged in the acquisition and diffusion of scientific and practical knowledge in the various branches of terraculture. Prominent among the means for the attainment of these objects have been its exhibitions and publications. It would not be difficult to show that its labors have been greatly blessed, and are highly appreciated by the community; in fact, that they are not second to those of her time-honored sister, the Massachusetts Society for the Promotion of Agriculture.

The evidences of its beneficial influence appears in the introduction of new varieties of fruits, flowers, and vegetables from distant and different parts of the world,—in the creation of new and improved sorts of these, particularly adapted to our own soil and climate; and in the rural architecture, orchards, gardens, and pleasure-grounds of our New England villas.

The facts connected with the early history of American Pomology have principally been developed through the agency of the Massachusetts Horticultural Society. This was the avenue through which the more advanced art and science of Horticulture in Europe passed into this now widely extended country. The noble results of a life-long labor of Van Mons, in Belgium, of Duhamel, Poiteau, Noisette, and other pioneers in France, and of Sir Thomas Andrew Knight, President of the Horticultural Society of London, created a stimulus and furnished a guide to American cultivators, and here laid the foundation of a progress which has advanced this

Association to a rank not inferior to any similar institution in this country, and perhaps not to any in the world.

These laudable efforts of foreign cultivators inspired the zeal of their correspondents on this side of the Atlantic, of John Lowell, Gen. Dearborn, Timothy Bigelow, Samuel G. Perkins, Gov. Gore, Thos. H. Perkins, Ebenezer Preble, Robert Manning, Zebedee Cook, Samuel Downer, and many yet living to whom we are indebted, in a great measure, for many useful experiments, publications, and results pertaining to the Horticulture of New England.

From these auspicious beginnings, the progress of this Society, and of the art and science it seeks to promote, have been most encouraging. At its first exhibition at the Old Exchange Coffee House, in Boston, in the year 1829, the great pomologist of America, Robert Manning, exhibited only two baskets of peaches; but previous to his death, he proved, under his personal observation, more than eighty varieties of American apples, and sixty varieties of American pears; and there are gentlemen now living, who had then scarcely commenced their course, but who have exhibited of the pear at one of its shows, three hundred and seventy varieties, and whose collections have numbered more than eight hundred varieties of the same fruit. The exhibitions of this Society have never been equalled in this country, and will compare favorably with those of any other society in Europe. As a verification of its wonderful progress, it may be stated that, at an Annual Exhibition held twelve years since, in Faneuil Hall, the dishes of fruit presented for exhibition, were estimated as follows:—

Dishes	Pears,	1,300,	in 350	varieties.
"	Apples,	600,	in 150	"
"	Grapes,	125,	in 40	"
"	Peaches,	50,	in 25	"
"	Plums,	25,	in 12	"

Making a total of 2,100 dishes of fruits in 577 varieties.

In grape culture, the advance is specially encouraging, and promises remarkable results. At the time of the organization of the Society, the only native grapes of note in cultivation were the Isabella and Catawba, and these so rare as to be objects of curiosity. In the period of a single generation they have become articles of such extensive commerce that our market has been supplied from September to January, with Catawba grapes from the far West, in such profusion, and at remunerative prices, that a single dealer in the market purchased, at once, for his own stall, two and a half tons at one shilling per pound. So great is the interest already awakened in grape culture, that new and improved varieties, adapted to general cultivation or to particular localities, are produced every year; and individual cultivators have in their collections hundreds and even thousands of seedlings under trial, which have been obtained by hybridization and other arts, and from which will undoubtedly arise, and at no remote period, varieties superior to those now in existence. Already we have orders for

our native vines and trees; and from the very nurseries from which we made importations twenty years ago.

Closely connected with this, is the manufacture of wine. A single house in this city, from the common wild grapes collected in this vicinity, makes twenty thousand gallons annually. The State of Connecticut made 200,000 gallons last year. Ohio, Missouri and California manufacture immense quantities, and have already commenced the exportation. One vigneron at Los Angelos makes sixty-six thousand gallons, or nearly two thousand barrels per year, from his own vineyard.

Thirty years ago, greenhouses and glass structures for the growth of fruits and flowers were confined to a few wealthy gentlemen in the immediate vicinity of large cities; but they have now become the frequent appendages of our market and other gardens. Then foreign grapes grown under glass could be obtained only a few weeks, and as a luxury for the opulent, or a cordial for the sick. Now they are to be seen in our shop windows, and are offered for sale in our stalls at all seasons of the year; and it is estimated that not less than forty thousand pounds, or twenty tons, of foreign grapes are produced annually within thirty miles of Boston.

At the formation of the Society, the strawberry was of very limited cultivation. Most of those in the market were gathered from the fields and pastures, and not a single American variety had then been produced by artificial impregnation. Now we have hundreds of new varieties, many of which are of merit and standard worth, and with which the markets of our cities are most abundantly supplied. As an evidence of fertility and importance of this crop, it may be stated that Hovey's Seedling, the first pioneer in this enterprise, has yielded 165 bushels per acre, and have been sold at the rate of more than thirteen hundred dollars per acre.

Similar results might be adduced in relation to the apples, of which thousands of barrels have been received the last autumn from the West, and from trees planted many years since the establishment of the Horticultural Society. The apple has become an important article of commerce. One hundred and twenty thousand barrels were exported from this port during the fall of 1858 and winter of 1859, most of which were Baldwins.

Other beneficial influences of this organization are to be seen in the almost endless variety of ornamental trees, shrubs, and flowers, and in landscape gardening.

At the organization of this Society, there were not more than three or four nurseries of any note in New England, and these were small compared with those of the present day. Now we number them by hundreds upon a scale of princely magnitude,—most of them, directly or indirectly, owing their origin to the spirit infused into the community by the efforts and enterprise of this Association, in dispensing originally the scions, seeds and plants received from foreign correspondents.

If the first seed planted by man was the first effort of civilization, then no stronger evidence of the progress and benefits of such civilization can be furnished than what is contained in the foregoing results. True, Agriculture provides us with the necessaries of life, but Horticulture

combines the ornamental with the useful, for a garden is only a small and highly cultivated farm.

Who can doubt whether the multiplication of these rural comforts strengthens local attachments, fosters industrial habits, promotes the love of kindred and country, and reflects honor on the Commonwealth?

History, observation, and experience confirm the sentiment that it is a wise policy for states or nations to encourage every branch of honest industry, especially those which relate to elevated taste in rural art.

While the progress of the Massachusetts Horticultural Society has more than realized the brightest anticipations of its founders, yet its operations have for many years been restricted for want of space for development. It has been confined to its small hall in School Street. That hall has recently been sold, and the Society will now have to seek a new location. It has needed a more spacious edifice for its exhibitions,—larger rooms for its library, for models and drawings, and for depository of seeds. It also needs land for a conservatory of plants, and especially an area around its edifice, in which specimens of the most rare and beautiful trees, flowering shrubs and plants of North America should be planted for the instruction and entertainment of our own citizens and those from abroad. The London Horticultural Society, the great pioneer institution, the first in the world, is engaged in a similar enterprise. It has lately taken up new grounds for its accommodation, and its estimated expenditure is put down at £100,000, or about half a million of dollars. Hitherto the Massachusetts Horticultural Society has maintained a rank not less honorable in America.

A society so auspicious in its beginning, so beneficial in its influence, and so hopeful for the future, seems entitled to the fostering patronage of the government to enable it to fulfil its mission, and to advance those interests upon which rest so much of the happiness of individuals and of the welfare of the Commonwealth. Is it, therefore, too much to expect that the Old Bay State, so famous for her industrial, educational, and philanthropic institutions, will avail herself of the present rare and perhaps the only opportunity in her gift within the limits of this city, to grant the prayer of your petitioners.

Signed,

JOSEPH BRECK,
MARSHALL P. WILDER,
JOSIAH STICKNEY,
SAMUEL WALKER,
GEO. W. PRATT,
CHAS. M. HOVEY,
W. C. STRONG,
B. V. FRENCH,
E. S. RAND, Jr.,
Committee.

PRESIDENT BRECK'S ADDRESS.

The first regular meeting of the Society for the year 1860 was held on Saturday, January 7, when the President, Joseph Breck, Esq., delivered the following Address:—

GENTLEMEN:

Another year of our existence as a Horticultural Society has passed, and we enter the threshold of a new year with ardent hopes and expectations that the season before us may prove more auspicious than the one which has now closed.

The variety in our climate is so great, with its excessive heats, excessive colds, and long continued droughts—with changes so sudden and unpleasant, together with our hard soil—that we are often disposed to feel that we are most unpropitiously situated for the most perfect results of our horticultural enterprises and labors.

This in some measure is true; but it is not always in the most congenial climates and on the most fertile soils where the results of horticultural pursuits are the most satisfactory.

If we do live in a hard climate, among rocks and barren soils, and experience the inconvenience of sudden changes, and have so much to contend with to try our patience, the very hardness of the climate, with the exertion necessary to cultivate the soil, gives us such vigor of body and mind that we have more courage and ability to meet the difficulties we have to encounter, than those who live in a more congenial climate and possess more fertile soils.

The success of our past operations, in comparison with those of other sections of the country, proves this—so that we may with truth say, "the lines are fallen to us in pleasant places; we have a goodly heritage."

The past year has been remarkable for the number of disastrous changes and fluctuations of weather that repeatedly threatened to destroy the hopes of the horticulturist.

The winter was not one of extreme severity, with the exception of two or three weeks, but generally open, mild, and pleasant. March, which is usually very rough and variable, seemed to have skipped over into April. From the swelling of the buds and other indications, we expected an early spring. At that time there were no indications of injury to evergreens, and other trees and plants, that afterwards appeared. March did not go out with the gentleness of the lamb, as we often hear it remarked, but with severe, piercing, cold winds from the Northwest, or with the roughness of the lion. These very cold, dry and uncomfortable winds prevailed during the most of April, and vegetation made but little progress. It really seemed as if April had unceremoniously crowded March out of his place, impatiently taking the precedence; but March not being disposed to be blotted out of the calendar, did his best to make himself known and felt in April, however out of season it might seem.

The consequence was, that on the first of May the prospect of an early spring had vanished. About this time the injury to evergreens, grape vines, and many shrubs and plants, began to be apparent. In some localities, laburnums and altheas were killed to the ground, grape vines very much injured, and many other plants and shrubs much damaged. It is a puzzle to know what were the causes of the extensive injuries done to trees and plants, and for the singular effects witnessed in some localities, where one tree would be killed, while another by its side remained untouched,—and other unaccountable freaks.

Some have referred the damage to the previous autumn, as all vegetation was in active state until the middle of November, when it was suddenly checked by severe cold; others to the severity of the winter; while others again attribute it to the unusually warm weather in March, causing an active flow of sap, which was held long in check by the severe cold winds of April; but whatever may have been the causes that produced it, no human skill could have averted the fatal results.

The pear and cherry trees were not in full bloom till about the middle of the month, or about ten days behind time. The bloom was abundant, and the prospect for a large crop very flattering; but how were we doomed to disappointment! On the night of the 14th of May my thermometer fell to 28°, which produced not only a frost but a freeze; so much so, that not only the ground was slightly frozen, but the leaves and blossoms of my pear, cherry and other trees were stiff with frost. The prospect was not very brilliant that morning, and probably most of you thought, as I did, that the cherry and pear crop would be a total failure. Fortunately a dense vapor arose from the ground, which obscured the sun till the foliage was gradually thawed, and instead of witnessing the melancholy spectacle of blackened foliage, there did not at first appear to be any damage. It was, however, soon ascertained that, in many varieties of pear, the fruit had been destroyed, or, in other words, did not set, and other varieties more or less injured. The cherry crop proved almost a failure. The peach buds were destroyed in the winter or spring, and hardly a blossom appeared.

The month of June was remarkable for the heavy rains that fell, amounting to about three times the usual average quantity for the month, accompanied by unseasonable cold weather, interspersed with a number of frosts on low grounds.

Strawberries were injured when in bloom by the frost in May alluded to, particularly those varieties whose flowers are produced on long stems, with the flowers above the foliage; as the Brighton Pine, for instance, which did not produce half a crop; while the Jenny Lind, whose flowers are hid under the leaves, produced a full crop.

The cold wet term continued into July, and slight frosts were reported even in this month, so that it could hardly be said that summer commenced much before the 10th. The dry term then commenced, and, with the exception of a few showers, in some places, we suffered for want of rain, and a severe drought prevailed all the rest of the summer. Light frosts

occurred in this month, in some places in the interior, so that we can say we had frost in every month of the season.

No wonder that many of the members of our Society thought it not advisable to hold our Annual Exhibition, for the prospect really was most discouraging.

The next noticeable event of the season was a severe frost early in September, which was a damper upon dahlias and tender annuals.

But the grand finale of the disasters of the season was a severe gale of wind, that was experienced about ten days before the Annual Exhibition, which blew off and damaged nearly half the small crop of pears, and made havoc among the apples. With all these disasters and discouragements, even those whose faith had not failed them respecting the success of the Exhibition, now began to fear. But the energy of the Committee of Arrangements, and other members, was apparent when the Music Hall was opened to the public. Where all the fruits and flowers came from was a marvel to many.

The Exhibition was a perfect success and highly satisfactory to the public, as well as to the members themselves. It would, without doubt, have been a success financially, had it not been for the most uncomfortable rainstorm which prevailed the whole time; for the expenses of the Exhibition were never before so small. The display of grapes was more extensive, of better quality, and finer specimens than have usually been exhibited on such an occasion. The show of apples and pears may have been exceeded in former years, but there were many exhibitions of very choice specimens. Of peaches there were but a few dishes, and those grown under glass. There were many fine specimens of rare plants, and taking all together, with the cut flowers and the large and excellent collections of vegetables, very few Exhibitions have excelled it.

The dry weather of August had a favorable influence upon the grape, as very little mildew was noticeable. The Isabella fully ripened in my garden for the first time for a number of years. Early in the season I supposed my vines were so severely injured that there would be no fruit; but later than usual in the season they broke and showed a small quantity. Probably owing to this circumstance, partly, the grapes ripened, showing the importance of pruning. My Diana vine was so much injured that it produced but a few bunches. The Concord was not in the least injured, and gave an abundance of fruit. The present season has confirmed the value of this variety, if it needed any confirmation. As the vines acquire age and strength the fruit is greatly improved. It is gratifying to learn that the originator of this grape has been successful in producing a number of superior seedlings, which, when brought to notice, will undoubtedly be of great importance to the country.

From some samples of wine, made from our wild native grape, to which my attention has been called the past season, I feel assured that when improved varieties of grapes are originated and disseminated, and a more perfect knowledge of the manufacture of wine becomes familiar, New

England can be made to produce wine, of pure quality, sufficient for home consumption.

The prominent event of the year is the sale of the Society's buildings, which was consummated the present week. The disposition of this property was a subject of long and careful deliberation by the Committee, before it was laid before the Society. It is conceded by all who have any experience in the valuation and sale of real estate, that the price obtained was a very liberal one. We shall leave this spot with feelings of deep regret, for here we have enjoyed many pleasant meetings; this is the place where we have first seen many new fruits and flowers, where we have acquired much horticultural knowledge, and where, for many years, the associations have continued satisfactory and pleasant.

Although we shall be deprived of a permanent home for a season, yet we hope that not many months will elapse before we shall again find ourselves more comfortably established in more extensive and well-lighted apartments, with ample room for our valuable library, social and business meetings, with all the conveniences and comforts which the rank, standing, and wealth of our Society demand.

The general impression is, that the Society have made a good sale, and that the purchase money is safely and well invested.

There will be no necessity for any haste in the purchase of another site on which to establish ourselves. I hope no hasty action will be taken on the subject, but recommend that the Society take time, and wait patiently for a favorable opportunity, which, no doubt, will present itself in the course of a few months, or in a year or two.

The committee who have in charge the subject of obtaining rooms for our library, business meetings and exhibitions, for temporary accommodation, will, no doubt, be able to find a suitable place before the first of April.

In a few days the debt to Mount Auburn will be cancelled, when we shall be free from debt, with a capital of over $90,000 well invested, and an additional and perpetual income of from $4000 to $5000 from Mount Auburn. The amount to be received this year will exceed the last named sum. It is obvious then that the pecuniary position of the Society is most satisfactory.

During the year 1859, there have been added to the Society eight life and thirty-eight subscription members, making a total of forty-six; while, in the same time, two life members and five subscription members have died, and thirteen have ceased to be members on account of the non-payment of their assessments, leaving a net gain of twenty-six. The present number of life members is 225, and of subscription members 315—making a total of 541.

Now, gentlemen, with our wealth and number of efficient members, much will and should be expected from our Society. It must be our study to know what will best promote its usefulness. Need I say that the first thing to be done among us should be to study the things that make for peace. There must be united and harmonious action among us, or we

shall make a retrograde movement, and the accumulation of wealth and the increase of members will all be in vain.

Let us begin the new year with a firm resolve that henceforth a spirit of union and concord shall be fostered by each one, forgetting ourselves and self-interest, for the sake of the prosperity and general good of the Society.

Gentlemen : Before I sit down, I cannot refrain from alluding to the sudden decease of our venerable friend, Josiah Bradlee, Esq., whose loss we this day mourn, from whom we have received repeated favors, in common with many other associations, scientific and charitable—who has been one of the pillars of this Society, and whose memory we shall delight to cherish. Before the adjournment of this meeting, I hope some of the members will be prepared with resolutions appropriate for this solemn event.

MEMBERS

OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY.

A * DENOTES THE MEMBER AS DECEASED.

MEMBERS FOR LIFE.

*Adams, Daniel, *Newbury.*
Adams, George E., *Medford.*
Allen, John Fisk, *Salem.*
Amory, Charles, *Boston.*
Amory, James S., "
Andrews, Frank W., "
Andrews, W. T., "
Andros, Milton, *Brookline.*
Appleton, Nathan, *Boston.*
Appleton, Robert, "
*Armstrong, Samuel T., *Boston.*
Aspinwall, Augustus, *Brookline.*
Austin, William R., *Dorchester.*

Bailey, Edwin C., *Boston.*
Barnard, James M., "
Barnard, Rev. C. F., "
Barnes, William H., *Roxbury.*
Bartlett, E., *Newburyport.*
Barrows, Thomas, *Dedham.*
Bemis, Amory, *Cambridge.*
Blagg, Samuel, *Waltham.*
Blake, George B., *Brookline.*
Blodgett, J. W., *Boston.*
Bond, George W., *Roxbury.*
Bouvé, Th. T., *Boston.*
Bowditch, A. C., "
Bowditch, J. Ingersoll, *Roxbury.*
Brackett, C. N., *Newton.*
Bradford, Samuel D., *W. Roxbury.*
Bradlee, J. B., *Boston.*
*Bradlee, Joseph P., "
*Bradlee, Josiah, "
Breed, Andrew, *Lynn.*
Breed, Henry A., "
*Brewer, Eliab Stone, *Roxbury.*
Brewer, Gardner, *Boston.*
Brewer, John Reed, "
Brewer, Otis, *Roxbury.*
*Brewer, Thomas, *Boston.*
Bright, Jona. B., *Waltham.*
Brown, Ebenezer, *Lynn.*
Burr, Fearing, Jr., *Hingham.*
Burr, M. H., "

Cadness, John, *New York.*
Carruth, Ch., *Boston.*
Carruth, Nathan, *Dorchester.*
*Chapman, Jona., *Boston.*
Chase, Hezekiah, *Lynn.*
Chase, Hezekiah, *South Boston.*
Chase, Wm. M., *Worcester.*
Clapp, Thaddeus, *Dorchester.*
Clark, W. L., *Neponset.*
Cleveland, Ira, *Dedham.*
*Codman, John, *Dorchester.*
Collamore, G. W., *Boston.*
Comer, G. N., *Newton.*
Comerais, Henry, *Dedham.*
Copeland, R. M'Cleary, *Boston.*

Copeland, R. Morris, *Lexington.*
Courtis, William, *Marblehead.*
Crafts, Ebenezer, *Roxbury.*
Crocker, Uriel, *Boston.*
*Crowninshield, George C., *Boston*
Cummings, John, Jr., "
Cushing, Thomas T., "

Daggett, H. L., *Boston.*
Dana, Ch. B., *Brookline.*
Dana, Nathaniel, "
*Decker, Louis, *Boston.*
Dennie, Daniel, *Dorchester.*
*Denny, George, *Westborough.*
Denny, R. S., *Dorchester.*
Dexter, G. M., *Boston.*
Downer, Samuel, *Dorchester.*
Duncklee, John, *Brighton.*
Durfee, Mrs. F. B., *Fall River.*
*Durfee, Geo. B., "
Durfee, Nathan, "

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E. S. Rand, Jr., Chairman; W. J. Underwood, G. W. Pratt, T. G. Whytal, James McTear, C. H. B. Breck, A. Apple.

On Vegetables,

D. T. Curtis, Chairman; Francis Marsh, P. B. Hovey, George Everett, Levi Whitcomb, James Nugent, I. P. Rand.

On Synonyms of Fruit,

M. P. Wilder, Chairman; Samuel Walker, C. M. Hovey, B. V. French, Chairman of the Committee on Fruits.

On Publication,

Corresponding Secretary, Chairman; Recording Secretary, Chairmen of Committee on Flowers, Fruits, Vegetables and Gardens; G. W. Pratt.

On Arrangements for Annual Exhibition,

J. S. Cabot, E. S. Rand, Jr., D. T. Curtis, W. R. Austin, F. L. Winship, P. B. Hovey, R. McCleary Copeland, W. C. Strong, C. H. B. Breck, A. C. Bowditch, G. W. Pratt, E. A. Story, and W. H. Spooner, Jr.

☞ The Annual Exhibition will be held SEPTEMBER 18, 19, 20, and 21.

38 1860

TRANSACTIONS

OF THE

Massachusetts Horticultural Society

FOR

THE YEAR 1860.

BOSTON:
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REPORTS.

REPORT OF THE COM. ON ORNAMENTAL GARDENING,

FOR THE YEAR 1860.

BY JAMES F. C. HYDE, SECRETARY.

THE Committee on Ornamental Gardening, in the discharge of their duties, have visited a greater number of places during the season than the Committee of previous years. In every case, they were kindly received and generously entertained. Though the duties have been greater this year, and as a natural consequence required a greater amount of time, yet we feel that the time has been well spent, and we sincerely hope it will not be without its advantages to the Society.

WOODLAWN CEMETERY.

On the twenty-first day of June, we visited this charming spot—consecrated to the sacred purpose of a rural cemetery. H. W. Fuller, Esq., Treasurer, who has been very active, and, it may be said, the originator of the whole thing, was with us, and explained the condition of the grounds when they were first purchased, and gave an account of the many improvements that have taken place, with many other facts that were quite interesting to us all. Everything in and around the spot is kept in a very neat and tasteful manner. We noticed many plants of that beautiful and too much neglected shrub, Kalmia latifolia, the most perfect we had ever seen. Plants of the rhododendron, and a great variety of shrubs and trees, all presenting a very thrifty appearance. We were fully satisfied that this was one of the most desirable spots that could be found about Boston for such a purpose. The gateway, designed by that excellent artist, Hammatt Billings, gives one a very favorable impression as he approaches the grounds; and after he has entered, beautiful evergreens and other trees will attract his attention. The originators of this project have great reason to congratulate themselves on the success of their enterprise, and, we doubt not, they will find themselves amply repaid for all the pains they have taken. We would have given a more extended and minute account of this delightful place, if the material had been furnished as desired.

ORCHARD-HOUSE OF MR. G. G. HUBBARD.

The next visit, which was made on the twenty-eighth day of June, was to the orchard house of Mr. Hubbard, at Cambridge. This is the only

house of the kind in Massachusetts. It is a very neat structure, of the following dimensions: length, one hundred and fifteen feet; width, seventeen feet; height of back wall, eleven feet; height of front wall, six and one half feet; front sash, two by four feet, movable; back sash, three by four feet. There is a walk three and one half feet wide, which runs round the inside by the wall, and the bed in the centre is filled with beach gravel, and on this are placed the tubs containing trees—one hundred and fifty in all. At the time the Committee were there, the cherries were ripe; but the other fruits, such as pears, grapes, peaches, nectarines, &c., were green, but in a state of forwardness, and presenting a very promising and satisfactory appearance. The chairman of the Committee visited the place at a later period, and saw the peaches when fully ripe. He was very much pleased, both with the appearance and flavor of that fruit. The question was asked by our Committee, How much earlier the fruit would ripen in the house?—a question which could not be fully answered at that time, but the subsequent experience of Mr. Hubbard has satisfied him that on the early pears there is a gain of about ten days, and about a month on later pears. All the fruit ripened earlier than the same kind out doors. The peaches and apricots were very beautiful, and of fine flavor. The nectarines were poor, and badly cracked. The later peaches were of better flavor than those first ripe.

The experience of Mr. Hubbard, and observations of the Committee, seem to justify them in saying, that the orchard house seems to be best suited to the growing of fine peaches, and for the fruit thus grown high prices may be obtained. Mr. Hubbard deserves great credit for what he has done in this department of horticulture, and the Society, no doubt, feel a great interest in the success of the enterprise. Time alone will enable the Society and the public to form a correct opinion in regard to the profitableness of this kind of culture.

The Committee cannot close their notice of this place, without doing justice to Mr. Walsh, who has had the entire charge of the orchard-house. He has done all that it was possible for a man to do, and has raised very fine fruit, and exhibited it at the rooms of the Society. He certainly deserves, and should receive, the thanks of every friend of horticulture.

MOUNT AUBURN CEMETERY.

The next visit made by your Committee was to this well-known and beautiful resting-place of the dead. The day was cool for the season, and very favorable for the purposes of your Committee. Though the Society have a large pecuniary interest in this cemetery, it is the first time the Garden Committee have visited it officially.

Some hour or two was spent in riding and walking about the grounds, with the trustees and invited guests. In the chapel we found the statues of John Adams, John Hancock, John Winthrop, and Judge Story—beautiful and valuable additions to the attractions of this noble temple. Seldom are we permitted to behold works of art more beautiful than these—the productions of a Crawford, a Greenough, and a Rogers. These alone well

repay the visitor for his trouble in coming to this place. The reservoir, which is of great capacity, was examined. It has been constructed the past season on Mount Auburn, near the observatory or tower, and is designed to hold the water pumped up by stationary engines, for the purpose of supplying fountains that are to be erected next season. Arrangements are being made to put in a number of catacomb tombs another season. Several tombs of the most approved style have been erected the past season, under the direction of the excellent and efficient superintendent, Mr. Mann.

Whatever may be said of the attractions and advantages of other cemeteries around Boston, we think it is safe to say that there is not probably in the world a cemetery that is in all respects equal to Mount Auburn. It has a peculiar charm in the gently undulating surface, hill and dale, its beautiful trees and shrubs, its well-kept roads and paths. And when the sad and weary mourner withdraws himself from the busy scenes of the adjacent city to visit the grave of some near and dear friend, who, having bravely fought the battle of life, has found a resting-place beneath the solemn shades of Mount Auburn, what thoughts are suggested by the scene around him! Though the busy hum of labor just reaches his ear, yet here all is peace and rest.

> "Sweet Auburn! mid thy soothing shades
> And verdurous lanes, how dear to walk;
> Of other scenes, and parted years,
> And friends, to hold familiar talk."

Your Committee expressed themselves delighted with the fine appearance of the grounds, and everything connected therewith. All that is done seems to be *well* done. The place is one of great attractions, and is visited and admired by thousands every season, not only from different parts of our own land, but by strangers. The cemetery where reposes the dust of our dearest friends is no longer a place to be feared and avoided, but an attractive spot. Let this feeling be encouraged and strengthened, that we may lose all the superstitious feelings we may have in regard to burying grounds and cemeteries.

Your Committee, after being kindly entertained at the house of the superintendent, left for their several homes, we trust wiser and better men for their visit to Mount Auburn.

MR. WILLIAM BACON'S PEAR ORCHARD.

On the ninth day of August, the Committee visited the well-known pear orchard of Mr. Bacon, at Roxbury. We found him in his garden, where he is always to be found when the weather will permit, such is his love for his trees, which seem to be his only pets. Mr. Bacon's orchard is situated on what was once low, marsh land, which has been filled up and prepared for the trees. A great quantity of spent tan has been used, to render the soil light and friable. There is an enclosure, of about two acres, on which stands a great number of trees. All seem to be very thrifty and healthy,

producing large crops of fine fruit. There is not, perhaps, a more successful pear grower in this vicinity, or one who takes greater interest in the cause, than our aged and respected friend.

MR. MARTIN TRAUTMAN'S GARDEN AND GREENHOUSES.

After leaving Mr. Bacon's place, your Committee visited the garden of Mr. Trautman, and, though we were not fortunate enough to find the owner at home, yet we spent some time in an examination of the fine dahlias, hollyhocks, and other flowers which were growing in great luxuriance. The petunia has received considerable attention here, and many fine double sorts have been produced. Mr. Trautman is a successful grower.

MR. AZELL BOWDITCH'S GARDEN.

The next place visited was that of Mr. Azell Bowditch, which, though newer than most other places your Committee have visited, yet presented a fine appearance. The grounds are well laid out, and seem to be profitably managed. We saw here fine specimens of the American weeping willow, a tree admired by many. Mr. Bowditch has two fine greenhouses. Many excellent specimen ornamental trees were here seen.

MR. WILLIAM WALES' GREENHOUSES.

A short drive brought us to the greenhouse of one of the most successful growers in this neighborhood. At this place azaleas have received special attention—he having taken many premiums at the exhibitions of the Society. Here the new weeping Norway spruce may be seen, and a beautiful object it is. When it is offered for sale, as we understand it soon will be, it will be eagerly sought after to plant on lawns. This is truly one of the best weepers we have ever seen. We saw here a fine crop of grapes, which were grown in a cheaply constructed house. We left with the impression that what was done at this establishment was with a wise reference to economy.

GARDEN AND GREENHOUSES OF MESSRS. BARNES AND WASHBURN.

The grounds of these well-known and successful florists are situated in Dorchester. When the Committee were there, the display of new dahlias and phloxes were particularly fine, and worthy of mention. This enterprising firm have taken the lead in these two species, while they have not been a whit behind the most wide awake of their competitors in other respects. New varieties are imported every year, sometimes at great expense, to satisfy the increasing demand for new things in the floral kingdom. Though the day was somewhat unfavorable,—there having been a very heavy rain the day previous,—yet your Committee were well pleased with their visit, both to the garden and the greenhouses, though in the latter there were not those attractions that may be found at other seasons of the year.

THE NURSERY AND GARDEN OF THE CHAIRMAN OF OUR COMMITTEE, HON. SAMUEL WALKER.

The day being far spent, the Committee accepted a very kind invitation from their Chairman to stop and take dinner with him. It is necessary only to say, that nothing was wanting on his part to make our visit a pleasant one. After having done full justice to the entertainment, the Committee visited several nurseries of Mr. Walker, situated in Roxbury and Dorchester. These grounds are mostly covered with pear trees, grown for sale. There were many thousand trees, and as good ones, taken together, as we were ever permitted to see—well formed, vigorous, and of the best sorts. This collection, so far as we know, is unsurpassed in this State.

The soil of Roxbury seems particularly well adapted, not only to growing pears, but to growing *pear trees.* Land was shown us from which several crops of trees had been taken, and those now growing on the same land are in a very thriving condition. Mr. McDermott, now a partner of Mr. Walker, has had the management of the nurseries in a great measure, and much credit is due to him for the skill displayed in producing such fine trees.

After an hour or two so pleasantly spent, a part of the Committee visited the

GREENHOUSE OF JAMES NUGENT,

at Jamaica Plains. Mr. Nugent is a constant contributor at the rooms of the Society, and in addition to fine bouquets and cut flowers, shows the largest and best blackberries that are seen. What he does he does well, and we hope and believe he is amply rewarded. His place, though not extensive, is well worth a visit; and it gives the Committee great pleasure to say that their stay, though of necessity limited, was nevertheless very pleasant and profitable.

The last place visited that day was the

GREENHOUSE OF MR. JAMES McTEAR.

This is a new place, and for that reason, perhaps, it could not be expected that so good a show would be made. Mr. McTear is a very successful grower, especially of heaths—a tribe of plants that are difficult to grow to perfection.

Respectfully submitted for the Committee,

JAMES F. C. HYDE, *Secretary.*

The Committee award the following premiums and gratuities:—

PREMIUMS AND GRATUITIES AWARDED BY THE GARDEN COMMITTEE.

To Mount Auburn Cemetery, for the good taste, neatness, and skill in every department, the first prize of . . .	$20 00
To Woodlawn Cemetery, second prize of . . .	10 00
To Gardner G. Hubbard, Esq., for orchard-house, a gratuity of .	15 00
To Messrs. Walker & Co., for best cultivated and neatly kept garden and nursery, a gratuity of	20 00
To Mr. A. C. Bowditch, for garden and greenhouses, a gratuity of	10 00
To M. Trautman, for flower garden and greenhouses, a gratuity of	10 00
To Mr. William Wales, for neatly kept grounds and greenhouses, a gratuity of	10 00
To Messrs. Barnes & Washburn, for neatly kept flower garden and greenhouses, a gratuity of	10 00
To Mr. James Nugent, for greenhouse and garden, a gratuity of	10 00
To Mr. William Bacon, for a neatly kept and well cultivated fruit garden, a gratuity of	10 00
To Mr. James McTear, for greenhouse, a gratuity of . .	10 00
	$135 00

REPORT OF THE COMMITTEE ON FLOWERS,

FOR THE YEAR 1860.

BY EDWARD S. RAND, JR., CHAIRMAN.

The past season has been remarkably favorable for the production of flowers, and never have the exhibitions of the Society been of so high a character, or so well maintained.

In reviewing the progress we have made, there is much to lead us to high hopes for the future, and to incite us to more earnest effort. In size our weekly exhibitions have often only been limited by the capacity of our hall; and in the quality and rarity of the displays, no year has been superior to that just past. The first exhibitions of the season were very small, and during the months previous to the first of May, we had little worthy of special notice. After the sale of our old hall, and before we removed to our new and very commodious quarters, we had no place where flowers could be displayed to advantage, consequently the shows of winter blooming plants were smaller than on previous years. The number of contributors during the past season has increased; while some have fallen off, new exhibitors have come forward, so that the places left vacant are more than filled.

The first exhibition was on Saturday, February 18th.

William Wales, Dorchester: Fine azaleas, in profuse bloom and good specimens.

Gustave Evers, Brighton: A fine show of cut flowers, and some good camellias; also a new tender rose, unnamed.

Saturday, March 3d. Antane Apple, Cambridge: A fine new azalea—General Baumgarcher—and a good specimen of Erica caffra alba.

Gustave Evers: A plant of variegated leaved daisy; quite a novelty, and very pretty.

Saturday, May 5th. William C. Strong, Brighton: A seedling pelargonium, very pretty, of bushy habit, and good bloomer.

The annual spring exhibition began on Tuesday, May 22d, and continued till Saturday, the 26th instant. Never have we had a finer display of choice greenhouse plants, and never have the plants been more tastefully arranged. The new variegated plants were conspicuous, and very numerous in all of the prize collections. Though many of our largest cultivators did not contribute to the exhibition, the hall was well filled, and all the displays were creditable.

By far the finest display of rare plants, and the greatest variety, was in the collection of William T. Merrifield, of Worcester. This collection consisted almost entirely of variegated leaved plants and lycopodiums. We especially noticed Begonias rex, Madam Wagner, Zanthina, Zanthina Reichenhaimii, splendida argentea, Plectranthus concolor pictus, Croton tricolor and variegatum, Dieffenbachia maculata, Caladium bicolor, picturatum, atropurpurea, poecile, pictum, and Chantinii, Maranta alba

lineata, Dracena ferrea and terminalis, Hoya variegata, a variegated leaved Dioscorea, and many other new plants. Among ferns and lycopods, Adiantum capillus veneris, Davillea bullata, Gymnogramma chrysophylla and sulphurea, Selaginella coesia, coesia arborea, circinalis, densa, Wildenovii, lepidophylla, denticulata. There were no fine specimen plants in this collection; all were small, but in vigor of growth and freshness of foliage, as well as in form and culture, they were not equalled by any collection displayed.

The show made by Messrs. Evers and Comley was excellent, and very creditable. They excelled chiefly in ferns and begonias, both of which classes of plants were well grown and in good health.

A description of some of the rare plants exhibited may not be amiss.

In Mr. Merrifield's collection we notice, as before said,—

Caladium Chantini.—A lovely plant, belonging to the Arum family, and remarkable for the beauty of its leaves. The foliage is of the most vivid green, beautifully blotched with red and white. No words can well describe this beautiful plant. As yet it is rare in Europe, and is in the possession of but few in this country. The shape of the leaves somewhat resembles that of the common calla lily, though more rounding. It is a stove plant, requiring a high temperature to develop the markings of the foliage.

Caladium marmoratum.—In growth like the above. Foliage dark green, marbled with white. A strong-growing and desirable variety. Like the last, a stove plant.

Caladium bicolor picturatum.—A very handsome variety. Foliage dark green, spotted with white; habit of plant very graceful.

Caladium atro purpureum.—A strong-growing variety, with dark green leaves and stalk, and leaf veins dark purple, making it a very showy plant in a collection.

The flowers of all the plants above mentioned are comparatively insignificant, the plant being cultivated for the beauty of its foliage. As a general rule, we find the flowers of variegated leaved plants are inferior.

Hoya variegata.—All our readers know the common, but not less beautiful wax plant; here we have a variety with variegated leaves, which is a charming addition.

Gymnogramma chrysophylla, or golden fern; a beautiful species—the young fronds being covered with golden powder. There is also G. Peruviana, of which the fronds are covered with silver powder; whence its name, Silver fern, which has, we believe, never been exhibited.

Lycopodium densum.—A lovely little plant, which a hasty observer would fail to notice. Its little fronds are most delicate and beautiful.

Dieffenbachia picta.—A tall-growing plant, with reedy foliage, richly marked with white. Its native locality is the hot reeking swamps of the Amazon, so the more water and heat we supply the better we succeed in its culture.

Maranta lineata alba.—A species of the plant producing the arrow root of commerce. Leaves long and stiff, beautifully veined with lines of pure

white. There is a variety called Rubra lineata, which was lost from our collection a few years since.

Echites picta.—A climber, with long, narrow leaves, veined with white.

Arum bicolor.—A beautiful species, having arrow-shaped leaves, the centre of which is deeply colored with dark red. It is a strikingly beautiful plant, of easy culture.

We must, with regret, turn from this collection, in which, though it contained more than fifty plants, we failed to discover any not worthy of extended notice.

Of pelargoniums, or "geraniums," as they are improperly called, by far the finest plants were exhibited by William C. Strong, of Brighton; though for perfection of bloom those shown by Messrs. Hovey excelled. Mr. Strong received the first prize, both for the show and fancy varieties. A beautiful little seedling, of the "fragrant fancy" class, named Nelly Bly, was also shown by Mr. Strong. It is a little gem; color, white, beautifully marked with dark, and of neat growth and foliage.

It would be a wrong to leave Mr. Strong's collection without mentioning his gloxinias, which were in superb bloom. This summer flowering bulb is of the easiest culture in a greenhouse, and no one having the means of growing it should be without it. A plant two years old will give more bloom during the summer than any plant one can procure; and the colors are so various as of themselves to form a bouquet. We give the names of those exhibited by Mr. Strong, all of which are superior: Sir Hugo, Erecta rex, Heliodorus, Beatrice d'Este, Guido Reni.

We next come to the fine collection of Messrs. Evers and Comley, which contained some of the finest plants exhibited.

Begonia zanthina gandavensis.—A very pretty variety, with dark nerved leaves.

Begonia rex.—A fine specimen of this fine foliaged variety.

Begonia Queen of England.—A lovely variety. Leaves large, dark green, with broad silver band. This plant should have the full sunlight to be seen in perfection.

Begonia zanthina Reichenhaimii.—A variety with leaves of silver purple on the upper side, dark reddish purple below; by far the best of the varieties of zanthina.

Begonia Madam Wagner.—A pretty and very free-growing variety, with leaves dark red on the under side and silvery above.

Begonia grandis.—A very large-growing variety, with dark green and silvery leaves, covered with long red hairs. A showy plant.

We have mentioned a few of the fine begonias exhibited. The plant is one of the easiest culture, and some of the varieties should be in every greenhouse. Those with variegated foliage generally require more heat than the other varieties, but all are grown with great ease, and, with plenty of pot room, bloom freely.

Grevillea robusta.—A handsome plant, with delicate foliage.

Tillansia splendens.—A curious plant, resembling the crown of a pine-

apple; the leaves striped with black purple and green. It is impatient of water, like all of its family, and is often killed by too much moisture.

Dracena gracilis.—A pretty variety of the dragon tree, with narrow drooping leaves, dark green, slightly edged with pink.

Thyrsacanthus rutilans.—A fine specimen, hanging with its showy crimson flowers.

Maranta regalis.—A diminutive plant of this fine new variety. A year hence we hope to see it in fine condition.

A splendid collection of ferns, the culture of which has lately become so popular in England, came from the same exhibitors. The collection contained about forty varieties, very few of which had ever been shown at our exhibitions, and attracted much attention by their grace and beauty of foliage, their peculiar fructification and elegance of growth.

In the collection of Marshall P. Wilder, we notice a well-grown plant of Cissus discolor, which attracted general attention; a pretty plant of Rhyncospermum jasminoides, well covered with its fragrant white blossoms; a small plant of Pleroma elegans, always noticeable for its neat glossy foliage and large purple flowers; and many more common plants, in fine bloom.

The only orchids, or air plants, in the room, with one exception, were shown by Edward S. Rand.

Maxillaria Harrisoni.—Flower large, white and purple, and delightfully fragrant in the morning.

Lycaste aromatica.—A large plant, in profuse bloom—the flowers diffusing a delightful odor like cinnamon all around.

William H. Spooner, Jr., exhibited six large verbenas, well grown, but not in profuse bloom.

A fine plant of the variegated-leaved Farfugium grande was shown by James McTear. It was one of the first times we had seen the plant in bloom. The flower resembles a small sunflower, and is not a recommendation to the plant, which should be more generally cultivated, as it is of the easiest culture, and will grow in the cold house or in a parlor. It is said to be one of the few plants which can withstand the smoke, etc., of London. It is now quite common, and can be procured of any gardener.

We noticed in the collection of Martin Trautman a fine plant of the pretty and graceful fern—Adiantum cuneatum; a small plant of Mussandra frondosa, conspicuous from its snow-white floral leaves; and a collection of the double petunias, in raising which he has been so successful.

A choice lot of plants came from the varied stores of the Cambridge Botanic Garden, among which we may specially mention an Australian Swainsonia, bearing clusters of purple and pink pea-shaped flowers; a well grown plant of Begonia rex; the curious flowered Passiflora difformis; a seedling geranium, rose-scented, having a very fine cut leaf, named Geranium dissectum; and a beautiful lot of cut flowers, including passion flowers and magnolias in variety.

A collection of some fifty fine plants came from the greenhouses of Messrs. Hovey; we specially noticed a fine specimen Azalea Gledstanesii.

Oncidium flexuosum.—The best specimen of this orchid we have ever seen. It was in profuse bloom, covered with its pretty flowers, resembling butterflies.

Æschynanthus Boschyanus.—A fine plant, the shoots hanging with the crimson flowers protruded from the black sepals.

Statice Holfordii.—The first time this pretty plant has been exhibited. It is well worthy of general introduction.

Dieffenbachia maculata.—Sometimes called D. picta. A beautiful plant, of which we have spoken above, which should be in every hothouse.

Aralia reticulata.—A very pretty plant, with graceful drooping long leaves.

Lilium Brownii.—A well-grown plant of this rare and pretty lily.

Rhopala corcovadensis.—A beautiful plant, it is said of most elegant foliage, which has never been shown at our exhibitions. There is an inferior variety often sent out under this name, but we have no doubt of the genuineness of the plant exhibited.

It would be wearisome did we attempt to give only a mention of the cut flowers exhibited. We cannot, however, neglect the large contribution of Joseph Breck, which was not entered for premium, and the choice show of Mrs. Benjamin Bruce, of Brookline. We can only mention, Andromeda polifolia, Trillium erectum and grandiflorum, and a variety of native plants, with many hardy species from the garden.

A frame of pressed flowers, shown by A. C. Bowditch, attracted much attention by its neatness and the perfect preservation of the colors.

A pretty little floral design came from J. Egerton.

Evers & Comley made a fine show of native plants, and exhibited a new double corollaed fuschia—Sir Colin Campbell.

D. W. Lincoln, of Worcester, some fine blooms of Nymphæa cœrulea.

Mrs. John E. Thayer, fine cut specimens of pelargoniums.

On Saturday, June 9th, a very fine display of named Iris was made by William H. Spooner, Jr., and some fine magnolias were shown by John A. Kenrick.

Saturday, June 16th. Another fine display of Iris from William H. Spooner, Jr., and a plant of the new Dianthus Heddewigii from Messrs. Hovey, now first exhibited. It is most valuable as a variety, and from the size and number of its flowers must prove attractive, both for the greenhouse and the border, but we confess it is not a favorite of ours.

June 23d. A fine specimen of Begonia Madam Wagner, from Edward S. Rand.

Dianthus Heddewigii, from Martin Trautman.

A splendid collection of cut flowers, arranged with great taste, from Messrs. Hovey.

The annual rose show of the Society opened on the twenty-fifth of June, and continued two days. From the fineness of the weather, which had been most favorable for the development of the flowers, we had expected a remarkably fine display. In this we were disappointed, for the show was

only good. There were many fine roses, but the display was by no means so large, nor were the flowers as fine, as we had good reason to expect.

The largest and finest display was made by Eliphalet Stone, of Dedham. This collection did not compete for the prize, as the flowers were unnamed.

A fine display, from Charles Copeland, arrived too late for competition.

We add a list of the principal exhibitors, with the varieties:—

From Warren Heustis, Belmont: Roses, Giant de Battelles, Mrs. Eliot, La Reine, Caroline Lancezeney, Triomph de l'Exposition, Four Seasons, Barronne Prevost, Perfection, Cardinal Patrizzi, Robert, Caroline de Sansal, General Jacquemont, Paul Recoult, Mad's Tradeaux, Rivers, Therese, Appert, Place, Rival, Volta, Duchess d'Orleans, Jules Margottin, Alice Le Roy. Also, Bourbons, Louise Odier, Reveil l'Arbey, Paxton, George Peabody, Casarnie Souchet—a very fine display.

From G. G. Hubbard, Cambridge: 20 varieties of June roses. Also, collection of roses.

From Evers & Comley, Brighton: 2 large bouquets, 25 Perpetual roses, among which were La Reine, Baronne Prevost, General Jacquemont, Mrs. Eliot, Caroline de Sansal, Rivers, Mad. Plantier, Eugene Sue, Duc de Cambridge (new), Anne de Dusback (new), Prince Albert, Sydonie, Mad. Trudeaux, Duchess of Sutherland, and others—a very fine collection. Also, cut flowers in variety.

From James McTear, Roxbury: Fuchsia, Rose of Castile, 10 Hardy Perpetual roses, 4 bouquets.

From Francis Parkman, Jamaica Plain: Hybrid Perpetual roses, Caroline de Sansal, Pæony, General Jacquemont, Baronne Prevost, Memi, Eugene Sue, Giant of Battles, Mad. Laffay, Standard of Marengo, Duchess of Sutherland, Mrs. Elliot, Napoleon, Comtesse de Belleval, Auguste Mie. Also, Mad. Andry, Le Grecceaux, Robin Hood, Marquise de Bocella, Pæony, Mrs. Elliot, Lady Alice Peel, Comtesse du Shalet. Also, Moss, Celinda, Blush, Jeanne de Montfort, Luxembourg, Mongadore, Cristata—very fine.

From M. P. Wilder, Dorchester: Collection of Moss, Perpetual, and June roses; 1 fine specimen Stephanotus floribundus.

From James Nugent, Jamaica Plain: Tender roses, Saffrano, Souvenir, Undulata, Yellow Tea, Clara Sylvane, Camellia Tea, Odorata, White Tea, and others.

From John A. Kenrick, Newton: Roses, pæonies, honeysuckle, tulip tree, kalmia, azaleas, weigela, wisteria, &c. Magnolia macrophylla.

From Miss E. M. Harris, Jamaica Plain: Wreath of roses.

From Hovey & Co., Cambridge: Hardy Perpetual roses, Madam Derrage, Pius IX, Mathurin Regnier, La Reine, General Jacquemont, Souvenir de Leveson Gower, Baronne Prevost, Leon de Combat, Jules Margottin, Madam Vedd, Dr. Marx, Sydonie, Dennis Popen, Prince Albert, Giant of Battles, Cornet, Duchess of Sutherland, Souvenir de la Reine Angleterre, Souvenir de la Exposition, General Delarge—a fine collection.

From Charles Copeland, Wyoming: 183 varieties Perpetual roses; 50

varieties June roses; 28 varieties Moss roses; 15 varieties Hybrid Perpetual Moss.

From A. Apple, Cambridge: 25 varieties Perpetual roses; 15 varieties Perpetual roses; 30 varieties June roses; collection of roses.

The only pot-plants shown were a very fine specimen of Stephanotus floribundus, from Marshall P. Wilder; the new and very beautiful variegated fern Pteris argyrea and a Rondaletia speciosa, from Hovey & Co.; and a small but very beautiful specimen of the rare variegated-leaved plant, Pavetta Bourbonica, from Edward S. Rand. Also, a new fuchsia Rose of Castile, by James McTear.

July 14th. A good collection of pot-plants from Evers & Comley, and Hovey & Co.

July 21st. A seedling carnation, by J. F. C. Hyde, of great substance, good form, and marking; by far the best seedling raised in this country which has come under our observation.

August 11th. The finest and largest balsams we have seen, shown by F. Thieler.

August 18th. A fine display of Quisqualis sinensis, from Hovey & Co.; Gesneria splendissima, from Martin Trautman, remarkable for fine foliage; Gesneria Geroltiana, from Evers & Comley, a pretty variety; a fine display of named Phlox and Gladiolus, from Hovey & Co., Wm. H. Spooner, Jr., and Barnes & Washburn.

August 25th. Fine roses, from Eliphalet Stone; fine gladiolus, from Joseph Breck and Wm. H. Spooner, Jr.

September 8th. A small plant of Peristeria alata, Espirito sancto, or Dove plant of Panama, from Wm. Wheelwright of Newburyport. This is the first time this pretty orchid has been shown at our exhibitions; though by no means uncommon it is rarely flowered; a fine display of dwarf asters, from Joseph Breck; fine dahlias, from Hovey & Co.; and gladiolus, from Wm. H. Spooner, Jr.

The Annual Exhibition was this year held in the Music Hall, and was a decided success. The floral show was far superior to that of past years, in both quantity and quality of the flowers and plants. We were no longer frightened and horrified at those monstrosities called floral designs, nor was the Hall decorated with amaranthine and immortelle crosses, pinned up by a huge rosette in the shape of a large yellow dahlia or marigold.

Instead, we had quite a number of neat pretty little baskets, showing into what dainty contrasts flowers could be arranged, and what pretty effects could be produced by skilful fingers.

Pot plants were finer than ever before, and conspicuous among them were numbers of the new variegated plants, now so popular, and many new and rare ferns and lycopods.

A rich display was made by Messrs. Hovey & Co., who exhibited, for the first time, Pteris tricolor, a new variegated fern, very beautiful.

Evers & Comley made a most beautiful display of choice plants, including many rare ferns, and large specimen plants.

Martin Trautman sent a very varied display of fine plants; none, however, of large size.

Wm. T. Merrifield, of Worcester, sent the same plants shown by him at the Spring Exhibition, and other rare plants.

In Hovey & Co.'s collection was a fine plant of the Pampas Grass, (Gynerium argenteum.)

Specimen plants were fine; and, as never before, none were grown on the long-legged beanpole plan, but all were well bushed, pretty well grown plants. We especially notice Cyanophyllum magnificum and Assamicum, from Hovey & Co.; Stephanòtus floribundus and Marantia fasciata, from Evers & Comley; Begonia rex, Erica Wilmoriana and Maranta zebrina, from G. G. Hubbard.

Bouquets were very poor, and some had to be removed from the table by the Committee. It is time some remedy was devised for the practice of admitting masses of flowers tied into a bunch and called a bouquet, to exhibition, and allowing the owner an admission ticket as a premium for his or her want of taste.

A special prize of five dollars, for the best parlor bouquet, and five dollars for the best hand bouquet was offered by a friend of the Society, which prizes were awarded at the Annual Exhibition, and the bouquets competing were marked by tasteful arrangement, and were all well made and handsome.

Of Orchids we had no display worthy of notice.

Of cut flowers the show was fine; Messrs. Breck, Hovey, Stone, Barnes & Washburn, and Copeland were the chief contributors.

Leaf flowers and fruit of the curious Trichosanthes colubrina were shown by Edward S. Rand, Jr., and finer specimens of the fruit, with a large display of native plants, came from the Cambridge Botanic Garden.

A fine display of Passiflora quadrangularis was made by Martin Trautman.

In the collection of Evers & Comley the plants worthy of special notice were Dracena gracilis, very pretty; Grevillea robusta, a plant of neat and fine habit; Callicoma serratifolia, foliage resembling that of the chestnut tree, delicate growth; Tillansia splendens, good; Marantia eximia, fine; Jasminum hirsutum, very fragrant and pretty; Latania Bourbonica, a very small plant; Begonia grandis, a fine specimen.

James Nugent: a fine plant of Hydrangea, variegated-leaved, very well grown.

Hovey & Co.: Pteris tricolor, very fine and rare, now first exhibited; Pteris argyrea, previously described; Maranta pulchella, very pretty; Maranta fasciata, larger than the preceding, and a very handsome variegated plant; Caladium Chantinii, very fine; Yucca aloefolia picta, a pretty plant; Pandanus javanicus variegatus, very remarkable for its variegated leaves; a fine lot of begonias; Gynerium argenteum (Pampas grass); Panicum sulcatum, a fine grass.

Martin Trautman: Rondaletia anomala, a new variety, now first exhibited,—with us it has done well as a bedding plant; Croton tricolor, always

pretty; Doodia caudata, fine fern; Adiantum formosum, a fine specimen; Caladium pictum, fine.

William T. Merrifield: Arundo donax varium, very pretty; Dioscorea zebrina; Aphelandra Roi Leopold, fine; Croton pictum and variegatum, always fine; Marantas bicolor, eximia, Warscewicsii, Liniata alba and rosea, all good; Aspedistra elatior foliis variegata; Echites picta, always pretty; Farfugium grande; Begonia argentea splendens, and many others; Bilbergia acaulis zebrina, curious; Arum bicolor; and a fine display of ferns and lycopods.

Two pretty variegated native plants—Goodyria pubescens and Chemophila variegata—were shown by Dennis Murray. Also, a huge specimen of the very rare fungus, Sparassis crispa. We learn from good authority that this is the first specimen ever discovered in this vicinity.

A very severe frost, on the night of September 28th, put a sudden stop to all floral exhibitions. Nothing has, since then, been shown at the hall worthy of notice, if we except a very fine and rare orchid, exhibited October 27th, by Edward S. Rand—a good specimen of Cœlogyne Wallechiana, in profuse bloom. This rare plant has, we believe, never been bloomed or exhibited in this vicinity.

During the past season many of the plants offered for premium have possessed points of superior merit; but others have fallen far below the standard, and in many cases, as will be seen by reference to the prize lists, the prizes have been withheld. This course, though exceedingly unpopular with exhibitors,—many of whom imagine themselves entitled to a premium because they are the only ones competing, though their flowers may be very inferior,—should be persistently followed by the Flower Committee, as thus only can the standard of excellence be maintained, and poor and inferior plants and flowers be excluded from our exhibitions.

The schedule of prizes offered this past year has proved popular, mainly because it appropriated more money, and distributed it more widely. It has proved advantageous, because, by offering fixed prizes for each weekly exhibition, the hall has always presented an appearance creditable alike to the Society and the exhibitors.

We now pass to the review of the season.

Camellias have not been exhibited worthy of the prizes, which were accordingly withheld. Why is it, that when all our greenhouses are filled with the finest varieties, we never can have a decent exhibition of camellias? If there was no ambition to excel, surely the prize is sufficient pecuniary inducement.

Ericas: Not a plant has been shown worthy of notice, if we except one from G. G. Hubbard at the annual exhibition. It is a disgrace to our florists that these beautiful plants are so neglected.

Epacris: Some fine kinds were shown by Gustave Evers, but not in sufficient numbers to merit the prizes. We know of fine collections of this beautiful tribe of plants near Boston.

Greenhouse azaleas: As on previous years, the best came from William Wales; still, this year's show was far inferior to those of former years, and

the second prize only was awarded. This plant is receiving more attention from our gardeners, as it richly deserves.

Parlor bouquets have, during the season, been entirely neglected; none have been exhibited except at the annual exhibition. Hand bouquets have been but little better; few have been shown, and those mostly by James Nugent, James McTear, and Martin Trautman, whose bouquets are always good.

Show pelargoniums: Exhibited only by Messrs. Hovey and William C. Strong. Those of the former excelled in profusion of bloom; those of the latter in beauty of growth, habit, and form.

To fancy pelargoniums the same remarks apply.

Fuchsias have been wholly neglected. Some new varieties, chiefly those with double corolla, have been shown. It is doubtful whether this is an improvement, and whether we shall ever have a fuchsia which for real beauty will excel the old Globosa.

Calceolarias and cinerarias have not been shown. The same may be said of greenhouse verbenas, of which we have seen no new imported seedlings which are worthy of mention. The sudden fancy for ferns and variegated begonias seems to have taken attention from these formerly popular show plants. Half a dozen plants of verbenas were shown at the opening exhibition by William H. Spooner, Jr.—well grown, but unfortunately not in bloom, requiring some ten days' sun to make them show plants.

Greenhouse plants, as may be gathered from our extended notices, have never been better. Great variety and fine specimens have been the features of our exhibitions.

Orchids have been seldom exhibited. We have fine collections in the vicinity of Boston, but amateurs are unwilling to expose choice and tender plants in our changing climate, and to the uncertain care of an exhibition hall. These plants should be seen in the hothouse.

Cut flowers have been unusually fine. Never has our hall appeared so well, never has the quantity been so great, the varieties so numerous, or so many rare plants been shown. It would be claiming too much to say we have had no poor exhibitions, but we certainly have had none which would not be far superior to the best of former years.

Great credit is due to Joseph Breck for his large and varied exhibitions, for which, though they have often held the first rank, he has constantly refused to accept either premium or gratuity.

Dennis Murray has made large displays of native plants, and has shown specimens of everything the woods or fields afford. Like King Solomon of old, he professes an acquaintance with every plant, "from the cedar tree which is in Lebanon, even to the hyssop which groweth out of the wall;" and we should judge the greater portion of his friends have been on exhibition in the bottles of the Society during the past season. Some were very rough-looking customers, others very modest and pretty, and all have a botanical interest. He has also shown his friends as pressed specimens,

on bits of stone, wood, and bark, and in a variety of costumes, too numerous to mention.

The largest contributors of cut flowers have been Hovey & Co., Antane Apple, James McTear, James Nugent, Eliphalet Stone, William C. Strong, William H. Spooner, Jr.. Franklin Winship, Martin Trautman, and, late in the season, Barnes & Washburn.

Hyacinths have only been shown in displays of cut flowers.

Pansies: Nothing new, or any marked improvement.

Specimen plants have never been finer.

Tulips: The same old story. Does any one now grow a show tulip?

Hardy azaleas: How is it we never get a good display of this beautiful shrub?

Shrubby pæonies: First prize to Marshall P. Wilder, who, having the largest plants and the greatest variety, always makes the best display.

Herbaceous pæonies are improving. Some of the new varieties are additions, and others are quite as good as the older kinds.

Pinks: Not one shown for premium. Shall a lack of exhibitors lead us to withdraw the prize?

Rhododendrons: Only shown in collections of cut flowers.

Of roses we have spoken in describing the rose show. Tender roses have been shown in great variety, and there are some new kinds which promise well. Gloire de Dijon holds its own as one of the best,—a magnificent flower and a free bloomer.

Summer phloxes: The blooms were destroyed previous to the exhibition by a severe rain storm, and none were shown worthy of the premium.

Carnations and picotees, though not as fine as last year, were very good. The exhibitors were Hovey & Co., Jonathan French, and James Nugent.

Hollyhocks were very fine. The best were shown by Evers & Comley, Hovey & Co., and William H. Spooner, Jr.

Gloxinias have been neglected, though fine plants of choice varieties have been shown by William C. Strong; and cut flowers of many beautiful kinds by Antane Apple.

Autumn phloxes were shown in variety by Joseph Breck, Hovey & Co, Antane Apple, and Barnes & Washburn. The quality remains as in previous years.

Petunias: A fine display by Hovey & Co. and by Martin Trautman. The double seedlings of the latter are equal to any of the imported varieties, and well worthy of general cultivation.

Gladiolus, gandavensis and floribundus varieties. The past season has witnessed great improvement in this beautiful flower. How little was it thought, when the now-seldom-seen Gladiolus natalensis or psittacinus was introduced with such a flourish of trumpets and as something wonderful, that such perfect flowers, specimens of beauty, could be originated? Choice collections have been displayed by William H. Spooner, Jr., Barnes & Washburn, Hovey & Co., Joseph Breck, and Antane Apple.

German asters: Very good, though not as fine as the previous year. In some places, the hot, dry weather parched up the flowers. Some pretty new varieties have been shown by Joseph Breck.

Verbenas have not done remarkably well. The show, however, was fair, the trusses good, and blooms large. The only seedling of merit we have seen is a blue or rather purple variety, raised by J. F. C. Hyde. While it wants many of the marks of a perfect flower, it has much to recommend it. The color is new, the habit good, and it is the most fragrant verbena we are acquainted with. It is well worthy of a further trial.

Dahlias have been less exhibited than formerly, and seem to be slowly going out of popular favor. As we predicted two years ago, their place will be filled by hollyhocks and gladiolus, of both of which the new varieties are magnificent, while the dahlia remains almost in statu quo. The flowers exhibited were all good—those of Hovey & Co. excelling in form and color, those of Barnes & Washburn in size. The prize was awarded to the latter under a mistake, and the error discovered when too late to alter the award. Size is the last thing to be considered in judging a show flower; both form and color take precedence. Some very good blooms were exhibited by James Nugent.

Achimenes have not been exhibited. This flower is of too delicate a nature to bear transportation to the exhibition room; its proper place is in the greenhouse, where alone it can be seen to perfection.

The success of efforts of the last year should only stimulate us to more earnest zeal for the future; and we trust that while another year may introduce to us many novelties in the floral, it will not, like the past, be marked by a neglect of old and well proved favorites.

The Committee take pleasure in laying before the Society the following articles on floriculture:—

Introduced Plants, by Charles J. Sprague.

A few Notes on Orchids, compiled by the Chairman.

INTRODUCED PLANTS.

BY CHARLES J. SPRAGUE.

While busily occupied in the energetic and absorbing attempts which we make to increase the size and splendor of our garden and greenhouse exotics, or to double the weight and girth of our vegetables, we are apt to ignore, or at least neglect, points of botanical interest, which, though more specially connected with the theory of the science, are still worthy the attention of all interested in the pursuit. Among these is the occurrence of foreign plants in our fields and by our roadsides. At first sight this does not seem to possess any particular interest, and yet the establishment of the period of introduction of any plant into a country distant from its native habitat is of no little importance to Botanical Geography. The subject has elicited the attention and careful study of some of the first minds employed in the study of botanical science. It has now become a matter

of speculation as to the primal origin of several of the cultivated plants; while it is difficult, in many instances, to decide whether certain plants are native in special districts or have been introduced at some remote period. Some species follow man wherever he goes, like the plantain, and others are carried by him as food, and have established themselves as firmly as the native plants of the regions into which they have been introduced. To establish the certainty of this introduction and fix its date therefore, are points of interest, the more important as the period becomes more remote.

There are few places which afford such an abundance and variety of naturalized foreign plants as the vicinity of Boston. The number of plants recorded in Dr. Gray's Manual of the Northern States, as being acclimated in that region, is 260 out of 2351, or just one ninth of the whole. Of this number more than one third are to be found more or less commonly around Boston. The causes of this are the immigration of people of many nations who have brought with them, in their apparel or luggage, the seeds of the commoner plants of their own country, which would be likely to adhere to them; seeds mingled with the grass seed imported here; and others attached to the many articles of merchandise coming constantly into the country.

Some of these have spread themselves so widely as to have become intolerable pests to the agriculturist, who does not know, perhaps, that the enemy he seeks to destroy is a foreign one. It is a singular fact, that nearly all the weeds which have become the special curse of New England farmers are introduced plants. *Buttercups*, the plaything of children, and the overspreading plague of some grass regions, are from Europe. Some localities in Maine are absolutely golden in the season of their flowering. The *Barberry*, which has so thoroughly established itself in this vicinity, is European, and has not elsewhere taken such a hold. *Celandine*, which fills our waste places with its delicate green leaves at the very beginning of spring, and displays its pretty yellow blossoms later, with which children anoint their warty fingers to rid them of their excrescences, is European. The *Water Cress*, common in our markets in spring, the *Hedge Mustard* which sends up its gaunt spikes of fruit so commonly by the roadsides, the *Shepherd's Purse*, covering waste places everywhere with its early green, the *Wild Radish*, which has become a very troublesome field weed, are all European. Among the common and more or less troublesome usurpers of the soil are *St. John's Wort*, *Bladder Campion*, *Mouse-Ear Chickweed*, *Purslane*, *Common Mallow*, or cheeses as the children call them, nearly all the *Clovers*, *May Weed*, and *White Weed*. This last is a thorough plague in grass lands. Its strong roots kill out the grass and are difficult to extirpate. Its origin here is differently explained. Some say it was introduced as a pretty flower: others that it was brought over, like many others, with grass seed or in luggage. In Europe it is a pet of the poets, and, under the romantic names of Ox Eye Daisy and Marguerite, it has been celebrated in verse. Here it is universally execrated as an intolerable pest. The *Canada Thistle* is not by any means a Canadian visitor. It comes from Europe, and its legion of seeds have spread it broadcast over the land.

The *Burdock*, equally common and the sport of children, comes from the same source. *Succory* or *Cicory* has established itself thoroughly around Boston. This is the same plant cultivated abroad for the "Chicory," which is used to adulterate coffee; the root being used after roasting and grinding. Here it is only known for its beautiful starry blue flowers. The *False Dandelion* has completely established itself in our grass lands, and sends up its branching flower-stem in autumn, covering our parterres with its yellow blossoms. Many unquestionably think it a late blossoming of the true Dandelion, which is quite a different plant. Other worthless visitors are the *Low Thistles*, *Mullein*, *Toad Flax*, *Blue Verbena*, *White Verbena*, *Motherwort*, *Bindweed*, *Nightshade*, *Thorn Apple*, all of the *Pigweeds*, all of the *Amaranths*, *Smart Weed*, *Bitter* and *Curled Dock*, and *Field Sorrel*, and *Nettle*.

It will be noticed that in the above enumeration are comprised most of the troublesome weeds which infest our grounds. It is somewhat singular that the agriculturist should have to thank other regions of the globe for the most valuable as well as the most vexatious plants which grow under his eye. Some of the plants enumerated have become so completely naturalized as to make it difficult, without sufficient data, to affirm their foreign origin.

There are some curious points in regard to this naturalization. Many of the commonest of European weeds have never taken possession here, while others have multiplied prodigiously. Of the many European violets, only one, the *Viola tricolor*, has established itself, and that sparingly. As we have numerous species of violets ourselves this seems the more strange. Out of 132 species of *Carex* or *Sedge*, only one is foreign, and that only in one small locality. As Sedges must inevitably be cut with grass in the season of haying, it is singular that the foreign species should not have been brought here with grass seed. The laws which govern the growth of plants in different localities are obscure in their workings. We find individual species establishing themselves everywhere, while other closely allied species refuse to be transplanted. Some garden plants defy the care and attention of the florist, while others overrun the garden wall and take full possession of the neighboring farmer's field, destroying his harvests as they move.

This article might be much more extended. The object has been to show that topics of interest are to be found directly about us, even in the occurrence of road-side weeds. The far-seeing and comprehensive mind finds everywhere about it some link in the great chain which binds together in one perfect whole the entire creation. The ignoble weed and the hot-house pet have alike their points of interest; and neither beauty nor usefulness to man can be the only qualification for study or attention in the eye of the true botanist.

A FEW HINTS ON ORCHIDS.

COMPILED BY THE CHAIRMAN.

The plants included under the general name of Orchids are distributed very generally over the temperate and torrid zones. They divide themselves into two classes, the terrestrial and epiphytal, or, more plainly speaking, those growing upon the ground and from it deriving their nourishment, and those growing upon trees or places removed from the earth and deriving their chief nourishment from the air, or the moisture therein contained. This last characteristic is to be taken as the true type of the class, as many truly epiphytal orchids, in their native haunts, grow upon rocks near waterfalls, deriving their means of existence from the constant moisture, and, though upon the earth, having no intimate relations with it.

In the temperate zones we rarely find any except the terrestrial orchids; in the torrid, all the epiphytal varieties grow in great luxuriance and numbers, and the terrestrial, though in some cases nearly related to those of more temperate regions, assume more beautiful foliages, and produce more gorgeous flowers.

In a brief article, like the present, to condense a manual for orchid culture is of course impossible. Our experience is too limited to give more than a few general hints. It is only our intention to open the subject now beginning to attract some attention in this country, and to present, in a few words, such useful directions as our reading has supplied.

And, in the first place, to grow orchids successfully a house must be devoted to them; *they cannot be grown with other plants.* It is enough to make one's heart ache to see, as we can in most greenhouses, a few half-starved specimens of Oncidiums and Stanhopæas, Cypripediums and Bletias, (they being the most hardy of the tribe) struggling for a miserable existence, with all the elements of their life, heat, air, moisture and rest wanting, and occasionally sending out a stunted, weak flower spike, as if to show what they might be, and that they were made for better things.

Now before constructing our house we must look a little at the temperature, moisture, seasons of growth and rest of the plants in their native countries. These conditions will vary greatly, according to the countries from whence the plants were originally obtained. It is impossible to make one temperature suit all the species; but by care, many, coming from regions remote from each other, may be grown in one house.

To grow them in the greatest perfection there should be three houses, the stove, the intermediate house, and the cold or resting house. The degrees of heat and moisture necessary for these houses will be given as we proceed.

But few can indulge in the luxury of three greenhouses for one kind of plants; and to these we say, do not, therefore, neglect the plants, for they can be grown with but little expense and trouble if you have one house, the stove, and are willing to devote a portion of your greenhouse as a cold-house for your orchids.

But to return. The plants must have a treatment similar to that they experience in their native countries. Now, all the orchidaceæ are from hot tropical countries, that is, the varieties with magnificent flowers, which we would wish to grow.

The greater part grow on trees, some on the trunks, some on the branches, some in the forks of the trunk and branches, some near the top of the tree, in full light, others in most shady spots. Again, the mode of growth is different, some are on the branches, and send out drooping spikes of flowers; others produce erect flowering shoots; and a small class only grow under the branches, being never found on the upper or sunny surface. Others, again, are confined to particular varieties of trees, or grow only in certain localities.

Among terrestrial orchids the differences of growth are no less marked. Now all the habits of a plant must be studied would we cultivate it with success. But one will in despair exclaim at the impossibility of adapting his culture to every case, and truly it is almost impossible.

But we can approximate, and by giving the plants every possible requisition, even if we cannot bloom them in the magnificence of their native haunts, we can obtain flowers which for beauty and splendor far surpass any productions of our temperate clime. A point to remember, also, is, that in tropical countries, the days and nights being equal, the distribution of light and darkness is more even; also, that the light is more intense. There is also a dry and a wet season; during the former the plants are parched, during the latter saturated with moisture.

It must also be borne in mind that the plants grow at very different altitudes, and therefore at different temperatures. Some are natives of hot reeking swamps, others of shady moist woods; some of rocky hills, some of elevated localities, so high that frosts occur. Travellers assure us that hoar-frost is often found on the leaves of some of the South American varieties growing in mountainous regions, such as Lycastes and Cattleyas.

Your house must, in the first place, to afford as much light as possible, be of glass, and span-roofed. Let it be low in the angles, so all the plants may be near the glass. Let the house run north and south, the aspect will then be east and west. This is to be preferred for several reasons: first, the heat and light of the sun are more equalized; in the cold mornings of early spring the sun sooner gives light and heat on the east side, and will be at noon in such a position that the beams will be slanting to the angle of the roof, while in the afternoon his power to give light and heat will be considerably prolonged. Thus each plant will have its due share of light and heat. The plants should be shaded from the direct rays of the sun; if we have a lean-to house, for a greater part of the day, shades must be used which keep the plants in comparative darkness; in a span-roofed house, while one side is shaded, the other is in full light.

Where one has only a lean-to house much benefit will be derived from a coat of paint over the glass (indeed it is a necessary precaution, as the leaves and flowers must be protected from the burning rays of the sun,) and thus the direct beams of light are tempered and softened. We have

found in our experience that where painting was necessary a light cream or straw color was productive of the most agreeable effect, and also more conducive to the health of the plants.

Opinions differ as to the advisability of having glass on the sides of the house. It is not necessary, for the house being so low, light enough will be admitted overhead. It, however, gives a house a neater appearance, and may be adopted or not, at the fancy of the grower.

There should be lights in the top of the house to give air, and also in the lower part, so a circulation may be maintained when necessary.

It is, however, advisable to allow the air from lower lights to pass over heated pipes or flues, in order it may become tempered in cold weather, as most orchids are very impatient of cold currents of air, which not unfrequently prove fatal.

It is impossible to give full directions for arranging the interior of the house, as each will have his own ideas, and will endeavor to please his own eye; a few hints may not, however, be unacceptable.

In the first place, there should be a broad walk through the centre of the house, or, if the width and height of the house will admit, two walks, one at each side.

The shelves of the stage (if a stage is used) should be shallow troughs, about two inches deep; these should be made of some durable wood, or, if possible, of stone or slate, and made water-tight. These should be filled with gravel, *upon* which the pots should be placed. These shelves will retain the moisture, which, in summer, is indispensable to the health of the plants. A good substitute for stone would be hydraulic cement, which might be used with small pebbles, upon boards, and would be perfectly water-tight, very durable, and not expensive.

Shelves may be put up in any part of the house, in order to bring young and small plants near to the glass; yet the plants should always be kept some inches from the glass, as they might otherwise be chilled by cold winds, or by the ice, which in our climate will form very thickly on the inner-side of the glass of an orchid-house in our cold winter nights.

Heating may be by a variety of modes; the best is by hot water, or steam pipes, in tanks of water, as thus the necessary moisture can at any time be afforded to the house; and, during the season of rest, when a moist heat is no longer required, by emptying the tanks, the house obtains a dry heat from the steam pipes. This method is much used in England, but we do not know of its adoption in this country. A common brick flue may be used with good success, though steam or hot water are much better. In using any of these, however, it will be essential to the health of the plants to maintain a constant moisture in the house, by evaporation of water placed in the flue or pipes, in large shallow vessels or pans, which should be made of zinc, as less expensive than other metals, and less liable to oxidization. The water in these pans should be frequently changed, in order the moisture may always be pure and sweet.

The habits of many orchids require them to be grown on blocks of wood or in baskets, which must be suspended from the roof of the house that the

plants may enjoy the full light. To do this, nails or hooks may be driven into the rafters, or strong rods be carried along the rafters, to which hooks shaped like the letter S may be suspended. This mode is preferable to the former, as it has a neater appearance and is more convenient.

All the rods, nails, hooks, &c., used in the house should be of copper wire, of the various sizes, as required; brass may be used, but is not so easily obtained. Nothing of iron should be used: if unpainted, the moisture causes rust immediately, and the rusty water runs from the nails and discolors the paint, and in a very short time the nails rust out and we learn the fact to our cost in the fall of some valuable plant; if the iron is painted it is more durable, but the paint soon peels and falls off. We have found brass hooked screws to answer most admirably.

Now, having described the house and its appurtenances, let us turn to an all-important subject—the treatment of the plants; and this we have space but to treat imperfectly. We can only give a few general hints, and leave the grower to his own experience,—after all, the best teacher in this as in other things.

But first, how is a beginner to obtain these plants, many of them very rare and natives of remote regions? And we must be forgiven if we here do a little advertising. The two best collections which have come under our notice in this vicinity (we speak now only of sale collections) are those of Mr. Cadness, of Flushing, Long Island, and of Isaac Buchanan, of Astoria. In both of these collections we saw, during the last summer, plants of many fine and rare orchids at moderate prices. But what is really a moderate price for an orchid may seem very large to one who has been accustomed to grow only greenhouse plants. Orchid growing is a luxury, and we advise none to begin who have not means at their command. At those collections a nice assortment of the Mexican and South American orchids may be obtained; but if a grower would indulge in the East Indian epiphytes, he must send to England for plants. A good way to procure a stock of the Mexican orchids is through some friend in the country; they will generally arrive in good condition, but for one worth growing the importer will find at least a dozen perfectly worthless.

Orchids just imported from their native country are too often killed by kindness. The treatment is very simple. First examine them closely, clean them, cutting away any dead pseudo bulbs (the swollen fleshy stems of orchids are thus denominated) with a sharp knife, also carefully removing any decayed stems or leaves. Apply powdered chalk to the fresh cut places, which will at once dry up the sap and prevent any decay. The plants must then be treated according to their different natures. Stanhopæas, Gongoras, and other plants of kindred nature, should be placed in shallow baskets and hung up in the coolest part of the orchid-house. Syringe the plants occasionally with water the temperature of the house. Use no moss, peat, or any substance whatever round the plants. When the plants show signs of growth it is time to change our treatment; then place the plant in a shallow basket, with peat and moss; give it more heat, and water and treat it as a well-established plant. Lelias, Cattleyas, Epi-

dendrums, and Barkerias do better placed on a bare block as soon as received; hang them up against the wall of the house, if possible over a tank of water; syringe frequently, and they will soon show signs of growth. Terrestrial orchids should be potted when received, but be kept cool, and supplied very moderately with water till they begin to grow; then more heat and more water.

The best wood to grow orchids upon is said, by the English gardeners, to be the acacia (Robinia pseudo acacia), with us called locust; the next the oak. We have used rough-barked elm with success. The wood should be well dried and deprived of its bark, which, according to English growers, only serves as a harbor for snails, wood lice, and cockroaches, which are the worst foes to the orchid-grower's success. In our experience we have had no trouble from any of these pests, though we cannot long hope to be without our share of these troublesome insects. Pieces of cork, in our experience, are very suitable for orchids, and can be readily obtained in any of our large cities. Baskets may also be made of strips of cork, and are very durable. In England, hazel and maple rods are considered the best for baskets, and the rule is given that all resinous woods should be avoided. We have, however, used baskets made of the ends of spruce poles, cut off from a pole fence and well dried, and as yet can see no ill effects; on the contrary, the plants seem to thrive better than in pots, as, through the open slats of the basket, a free circulation of air is obtained, and no water can saturate the roots. Very pretty wooden stands may also be made of the ends of spruce poles, in which plants thrive better than in pots. We have now thriving finely in stands of this kind a large plant of Aerides odoratum and a large Cymbidium. Large plants of epiphytal orchids, especially the large-growing Cattleyas, will grow better in pots than on blocks.

In potting, always give perfect drainage. A good rule is to fill the pot two thirds full of crocks, and to invert a small pot over the hole in the bottom of the larger, then fill round it with crocks. Then fill in with turfy peat, bits of crocks and charcoal. Elevate the plant on the compost, about an inch or more above the rim of the pot, sloping the compost gently down to the rim. Secure the plant in position by pegs or sticks, and they will soon be able to sustain themselves.

A few words about watering. This should always be done with water the temperature of the house. To obtain this it is necessary to have a cistern in the house, which should be supplied with water from the roof, as rain water is most suitable for the plants. In lieu of a cistern, large tubs of water should be placed in various parts of the house, which are also very useful by supplying moisture to the air by evaporation. Another use is, plants growing in baskets require to be dipped, as the water, as supplied by the syringe, does not sufficiently saturate the ball of compost. During the season of growth this should be frequently done, and the plants allowed to become very wet, but never during the season of rest.

The method of using the syringe. We have seen some gardeners play away upon the plants as if they were holding the hose-pipe of an engine and extinguishing a fire. This, if not positively detrimental, is of no ser-

vice to the plants; the syringing should be so managed that the water shall *fall* in a fine shower, or even mist, *over* the plant.

We neglected to say, when speaking of baskets, that for Stanhopæas, and plants of like nature, we prefer shallow baskets made of copper or galvanized iron wire. These plants protrude their flower buds from the very base of the pseudo bulbs, and push them downward through the peat and sphagnum to the bottom of the basket, through which they hang and expand their gorgeous flowers. These flower spikes almost invariably perish if these plants are grown in pots, unless great care is taken to watch for the buds, and to train them over the sides of the pots. In slat or rod baskets they too frequently are stopped by the bottom slats and decay. We therefore have found that in wire baskets the buds never perish in this way, nor do they require constant watching. We have also used a basket made of earthen ware for some plants. These may be made very ornamental, and of a variety of shapes. The chief objection to them is their weight, which, in those suitable for large plants, would be very great; for small plants they are very pretty. They are suspended by wires fastened to holes in the rim.

Having thus briefly described the methods of growing orchids, and the proper house for them, we come to the consideration of the suitable soil.

A fibrous peat is most suitable. Let it not contain earth enough to retain the water, but be porous and not retentive of water. If you cannot find a peat answering this description, take that most nearly approaching it, and beat and sift it till the earthy matter is separated; if still too close, mix in chopped sphagnum or bog moss, bits of crocks or charcoal, so the water will drain off freely.

The operation of potting has already been described; that of basketing differs somewhat. Prepare the peat, &c., the same as in potting; cover the bottom of the basket with a thin layer of white moss, to prevent the peat dropping through, then fill in with peat. Be careful not to injure the roots of the plant; clean the leaves and bulbs; prune off all dead parts; place the plant in the middle of the basket, and fill in with the compost; then give a good top-syringing to settle the soil, and hang the basket in its place. Always use shallow baskets; the roots of orchids run on the surface, and seldom penetrate to any depth.

The proper orchids for baskets are all the Stanhopæas, Acroperas, Acinetas, Coryanthes, Gongoras, some Dendrobiums, and some other less common species. Those requiring pot culture are all the Anectochilus, all the Bletias, Coelogynes, Brassias, Calanthes, some Cattleyas and Cymbidiums, all Cypripediums and Cyrtopodiums, some Dendrobiums and Epidendrums, Lycastes, Maxillarias, Miltonias, Odontoglossums, Oncidiums, Peristerias, Phaius, Sobralias, and Zygopetalums, with many other less common species. Many of the above may be grown on blocks of wood.

We give a short list of those which do well on blocks or cork: Ærides, Barkerias, Cattleyas, Dendrobiums, Epidendrums, Lelias, Miltonias, Oncidiums, Renanthera, Sophronites, Scuticaria, Phalaenopsis, Vandas, and many others.

The method of growing plants on blocks is very simple. It is only to fasten the plant firmly on the top, side or under part of the branch, according to its nature, suspending it by a copper nail driven into the end, to which should be fastened a loop of copper wire; or, drive a nail in each end, make two loops, and suspend the plant by a wire connected with each. Let the block be so suspended that the water will readily run off. A branch of cork is said to be the best for growing plants of Phalaenopsis and Renanthera.

Orchids require a season of rest. In their native countries there is a period when they can receive no water—the dry season. At this time the bulbs become perfected, and the plants are fitted for the production of flowers; therefore, to ensure a fine display of flowers, perfect rest must be given for a season. At this time water must be almost entirely withheld, only enough being given to prevent the pseudo bulbs from shrivelling, and the heat must be reduced lest the plants be started into growth.

If the same heat is always maintained, and constant moisture afforded, the plants will continue growing, or will produce weak second growths and fail to flower, or else produce weak and few blossoms.

A most ready way of securing this rest is to remove the East Indian orchids to the cooler or Mexican house, during their resting season, that is, after they have perfected their growth, and again to remove the Mexican orchids to the greenhouse during their resting season.

As soon as they show signs of growth, or when it may be desirable, remove them again to their respective houses, where they will soon show signs of growth and flower.

There are some East Indian orchids, such as Phalaenopsis, Ærides, &c., which grow perpetually; these should always be kept in the hottest house, but the heat should be reduced so they may not be forced into too active growth; for these plants often kill themselves by too much flowering.

Now as to the heat of the house; of course it must vary with the different houses, and at different seasons of the year. We cannot do better than to give the degrees of heat required, according to a table given by an English writer, which we copy entire.

	FAHRENHEIT.			
	Day with sun.	Day without sun	Night.	Morning.
INDIAN HOUSE, or stove.				
Spring,	75	70	60	55
Summer,	85 or 90	70	65	60
Autumn,	70	65	60	55
Winter,	65	60	55	50
MEXICAN HOUSE, or cool house.				
Spring,	70	65	60	55
Summer,	75	65	60	55
Autumn,	60	55	50	50
Winter,	55	50	50	45

We must again reiterate, the air of the orchid-house should be kept moist; a warm, moist atmosphere is what all orchids require during the season of growth. This is effected by frequent syringings, sprinkling the floors with water, and by large evaporating pans, as before described. In a large establishment it would be a good plan to have a small boiler, purposely to generate steam for the atmosphere of the house. This could be very easily arranged, and we believe the experiment has been tried in England with perfect success.

In winter, or during the season of rest, water must be almost entirely withheld, but gentle syringing will, except in very dull, cloudy days, be beneficial to plants which continue to grow, or have no pseudo bulbs. Some on logs may become too dry; water should be sparingly given. One pot orchid, Huntleyas, is also benefited by winter syringing. Water should begin to be withheld about the first of September, or perhaps earlier, and be almost entirely discontinued by the last of October.

The leaves of orchidaceous plants should be kept clean. When this is not effected by the syringing they may be washed with a soft bit of sponge, taking great care not to bruise the leaf.

The insects which infest orchids are scale, mealy bug and red spider, and the remedy for each is that adopted for their destruction in the greenhouse. To destroy cockroaches and wood lice, which devour the tender shoots of flower buds and roots, the old trap of a potato or turnip, hollowed out, is the simplest and best; the pests will be found under the trap, and can easily be destroyed. Cockroaches have often to be hunted at night with a lantern. They not unfrequently arrive from England, with newly-imported plants.

Prevention is better than cure, and to so arrange the shelves, as previously described, will keep these insects from the plants, for they do not like to wet their feet. Pot the plants, also, so they may have no lodgment among the drainage, that is, by inverting a pot, as before directed.

We now propose to give a few hints on orchids which require peculiar culture.

Sobralia macrantha. This magnificent plant has large flowers, somewhat resembling a Cattleya; they sometimes measure six inches across. The color is richest purple crimson. The leaves are long and reedy, and the blossoms are produced from the top of the stems, one at a time. The single flowers last only a few days, but five flowers are often produced in succession, on each stem of strong plants. This plant is a native of Guatemala, and will thrive in a cool stove. Pot the plant in a compost of three parts turfy loam, one part peat, one part leaf mould, with a little silver sand, all well mixed together.

Sobralias have strong asparagus-like roots, and require large pots. In its native country this plant grows in marshy ground, on little raised hillocks. During the rainy season they have abundance of moisture; the plants then grow and flower. In the dry season the plants have rest. We must regulate our treatment in the same way to grow it with success. From March to August give abundance of water. From August to Decem-

ber water more sparingly. From December to March give none at all. This fine plant is by no means rare. We have seen it in collections in this country, but do not know of its being yet on sale. Fine flowering plants may be imported from England, at the moderate price of six to eight dollars.

Dendrobium speciosum. A fine species, with large creamy-white flowers, having the lip beautifully spotted with crimson. The great mistake in growing this plant is keeping it too hot. It is a native of New Holland, where the air is much drier and cooler than in the tropical regions, where orchids are usually found. It should be grown in a cool house, where the temperature is between the greenhouse and the stove, that is, varying from 45° to 55° in winter, and from 55° to 65° in summer. Like all Dendrobiums it must have a season of rest to bloom well. Small plants may be obtained for two or three dollars; larger plants always command a high price.

Coelogyne cristata. A most lovely plant. Pot in a mixture of rough fibrous peat and half-decayed leaves and sand. Drain them well, and place them in the coolest part of the East Indian house. They generally bloom about February, and should be potted just when they begin to grow.

C. Wallichiana, C. precox and C. maculata form a distinct group, sometimes called Pleiones. They form curious greenish spotted bulbs. Pot them in loamy peat, leaf mould and sand, and grow them on a shelf, near the glass. The flowers appear before the leaves, and are very beautiful. The young shoots succeed *the flowers out of the same sheath.* As a general rule, get the leaves as large and healthy as possible, to secure fine flowers. This class does not require large pots.

We had a very pretty little plant of C. Wallichiana on exhibition at the Society's Hall this autumn.

Plants of Coelogyne cristata command about ten dollars each; of C. Wallichiana, two to five dollars. C. Gardneriana is a fine species we have not yet seen. There are many fine species, all of which are well worth growing.

Barkerias should all be grown on blocks, without moss, in a temperature not exceeding 65°, and in winter the thermometer may be allowed to fall to 40°. Give plenty of air; syringe frequently while growing—but only once a month when at rest. There are many varieties.

B. elegans. The first introduced and finest was lost to cultivation, but can now, we believe, be obtained in England.

Barkeria spectabilis. A beautiful variety. Flower three inches across; color bright lilac, labellum white, with lilac edges and point. Plants may be obtained for about six dollars.

Barkeria Skinneri has disappointed us. From the description we had expected a beautiful plant; the flowers with us were small, of a pretty rosy pink color. We trust to do better when our plant is larger. In bloom about the end of summer. Plants may be obtained for about five dollars.

Anœctochilus setaceus. A lovely orchid, with variegated leaves, a native of Ceylon. The flowers have little beauty. The ground color of the leaves is a dark velvety green, tinged with a metallic lustre, inlaid with

streaks of golden network. They must be seen, to be appreciated, for no description can do them justice. A variety called pictus has a broad golden stripe down the centre of the leaf.

A. Lobii, Lowii, and Xyanthrophyllum, are three magnificent species in our collection, of which we defer a description. These plants are most difficult to cultivate. *They should always be grown in the shade, in the East Indian house, under bell-glasses.* Drain the pots well, prepare a little sandy peat, vegetable mould, fine chopped sphagnum and silver sand; elevate the plant a little above the rim of the pot, and press the compost well around it. Then plunge the pot, containing the plant, into another, several sizes larger; elevate it a little above the rim of the larger pot, and fill all in firmly around with sphagnum. Place a clean bell glass just inside the rim of the larger pot. The glass must be frequently wiped lest too much moisture collect on it. The plants require to be kept damp, but care must be taken to prevent too much moisture. It is often sufficient to only wet the moss in the larger pot. Do not allow the plants to flower, but pinch off the bud as soon as it appears. Plants of the more common varieties, (of which there are several we have not described, with silver-veined leaves,) and of A. setaceous may be obtained at about five dollars each. The rarer varieties, such as Lowii, Lobbii, and Xyanthrophyllum, cost from ten to fifteen dollars each. The plants are all small growers, seldom attaining a height above two inches.

Cypripediums should be in every collection; they are easily cultivated in pots, in a compost of turfy loam, fibrous peat, and leaf mould, with a little sand. Drain the pots well, as they are impatient of too much moisture. March is the best time to pot them.

C. insignis. A fine variety. Sepals and petals, yellowish-green, shaded to red, and spotted with brown, the centre petal has the end tipped with pure white; the lip is orange, tinged with rich brown. This variety is now quite common, and flowering plants may be obtained for about a dollar. The flowers remain for weeks in perfection.

C. venustum. Flowers yellowish-green, tinged with red; leaves mottled. Not uncommon. Price about two dollars. These two varieties will do well in the warm end of a greenhouse.

C. barbatum. Sepals and petals brownish purple; lips white, with reddish stripes; leaves mottled.

C. purpuratum. Like the former, but a deeper purple. A very handsome variety.

C. Javanicum and C. hirsutissimum are very fine varieties. All these last mentioned are rare, and must be imported from England. Price from five to fifteen dollars each.

It now only remains for us to give a list of a few easily-grown orchids, which may be obtained at a moderate price, and which require no peculiar treatment, but which, by following the directions we have given, may be grown and flowered in perfection. Those marked with a star may be obtained in this country.

*Acineta Barkerii. From Mexico; yellow flowers; basket culture. Price five dollars.

*Barkerias Skinneri and spectabilis. Block culture. See directions for cultivation, ante. Price, about five dollars.

*Acropera Loddigesii. Flowers brownish-orange, curious—a free-grower and bloomer. Basket culture. Price two dollars.

*Cattleya crispa. Petals pure white; lip rich purple. A free flowerer. Pot culture. Price five dollars for small plants.

*Cattleya mossiæ. Rose petals; tip, yellowish stripes, on a rose ground. Pot or block culture. Price, five dollars. There are many varieties.

Calanthe veratrifolia. Pure white flowers, lasting a long time in bloom. Pot culture. A terrestrial plant; requiring rest in winter, with but slight waterings. Price, in England, five dollars.

*Cattleya Forbesii. A pretty variety, easily grown, and a free flowerer. Pot culture. Price, two dollars.

Ærides odoratum. A beautiful East Indian orchid. Flowers rose and white, delightfully and powerfully fragrant. Basket or branch culture. Price of strong plants, ten dollars.

Coelogyne cristata.
Coelogyne Wallichiana. } Pot culture. See directions given above.

Coryanthes macrantha. Very curious. Basket culture. Price, five dollars.

*Dendrobium nobile. Petals, flesh-colored, tipped with rose; lip, yellowish, with purple spot. A beautiful species. Pot or block culture. Price, three dollars.

Dendrobium chrysanthemum. Golden yellow. Basket culture. Price, five dollars.

Dendrobium moniliforme. A pretty species, with rosy lake and white flowers. Pot culture. Price, five dollars.

*Epidendrum aromaticum. A pretty species. Block culture. Two dollars.

Epidendrum macrochilum roseum. Rose color and dark, very fine. Block culture. Price, ten dollars.

*Gongora atro purpurea. Flowers, purplish brown, of curious shape. Basket culture. Price, two dollars.

*Lelia autumnalis. A beautiful flower, lasting a long time in perfection; petals rosy purple; labellum white, rose tipped. Block culture. We have flowered it the past year in a basket. Price, about five dollars.

Lycaste Skinneri. A fine orchid. Pure white, variously marked with crimson and carmine. There are many varieties. Pot culture. Price, ten dollars.

*Lycaste aromatica. Flowers, yellow orange; delightfully fragrant; perfume resembling cinnamon. Pot culture. Price, three dollars.

*Odontoglossum grande. A magnificent plant; flower five to seven inches across; sepals and petals, yellowish ground, barred with purplish brown; lip white, blotched with dark pink. Lasts a long time in perfection. Pot, basket, or block culture. Price, eight dollars.

*Oncidium papilo. Color, rich brown, barred with yellow. Pot or block culture. Strong plants, five dollars.

*Oncidium flexuosum. Free flowering; color yellow. Pot, or block culture. Price, two dollars.

*Oncidium sphacellatum, O. altissimum, O. luridium and ampliatum are all fine species. Pot or block culture. Price, about three dollars each.

Sobralia macrantha. See ante.

*Stanhopæas insignis, eburnea, saccata, grandiflora, tigrina, and many others, all free-flowering, requiring culture in shallow baskets. Price, from two to five dollars, according to size and varieties.

*Tricophilea tortelis. A pretty little orchid. Color, whitish brown, with curiously-twisted petals; lip, pink and white. Pot, or block culture. Price, two dollars.

Zygopelatum Mackayii. A fine plant. Color, purple and brown, or chocolate; very fragant. Pot culture. Price, five dollars.

Zygopelatum maxillare. More delicate than the last. Lip, a rich blue. Pot culture. Price, ten dollars.

Dendrobium calceolare. Sepals and petals orange; lip, chocolate, edged with yellow. Pot culture; very desirable. Price, five dollars.

Scuticaria Steelii. A handsome plant, with long rush-like leaves. Grow on side of a piece of cork. Flowers, cream-color, spotted with crimson. Price, ten dollars.

We have thus fulfilled our promise, and given a few hints on orchids. In this we lay no claim to originality, but have merely put into small compass the necessary directions. The article must necessarily be imperfect and faulty, but if it lead any to attempt the culture of this rare, beautiful and curious class of plants, its object will be fully attained.

PREMIUMS AND GRATUITIES AWARDED FOR FLOWERS.

The Committee would award the following prizes:—

CAMELLIAS.—For the best twelve named varieties of cut flowers with foliage, (not awarded,) a prize of	$6 00
For the next best, not awarded,	5 00
For the next best, do.	3 00
HEATHS.—For the best named varieties, not less than six, in pots, not awarded,	6 00
For the next best, not awarded,	4 00
For the next best, do.	2 00
EPACRIS.—For the best named varieties, not less than four, in pots, not awarded,	4 00
For the next best, not awarded,	3 00
For the next best, do.	1 00
GREENHOUSE AZALEAS.—For the best six named varieties, in pots, not awarded,	10 00
For the next best, to William Wales,	6 00
For the next best, not awarded,	4 00
PARLOR BOUQUETS.—For the best pair, not awarded,	3 00
For the next best, not awarded,	2 00
HAND BOUQUETS,—For the best pair, to Martin Trautman;	2 00
For the next best, not awarded,	1 00
PELARGONIUMS.—For the best six named varieties, grown in pots, (not fancies,) to William C. Strong, a premium of	5 00
For the next best, not awarded,	4 00
For the next best, do.	2 00
For the best six named fancy varieties, in pots, to William C. Strong, a premium of	5 00
For the next best, to Hovey & Co.,	4 00
For the next best, not awarded,	2 00
FUCHSIAS.—For the best six named varieties, in pots, not awarded,	6 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
CALCEOLARIAS.—For the best six varieties, not awarded,	3 00
For the next best, not awarded,	2 00
For the next best, do.	1 00
VERBENAS.—For the best six, in not less than 8-inch pots, not awarded,	5 00
For the next best, not awarded,	3 00
For the next best, do.	2 00
For the best single specimen, in pot or pan, not awarded,	2 00
CINERARIAS.—For the best six named varieties, do.	4 00
For the next best, not awarded,	2 00
For the next best, do.	1 00

GREENHOUSE PLANTS.—For the best display of not less than twenty, regard to be had to new and rare varieties, and well-grown specimens, of named plants, to Hovey & Co., $15 00
For the next best, to Evers & Comley, . . . 12 00
For the next best, not awarded, ... 10 00
For the next best, do. 8 00
CUT FLOWERS.—For the best display, to James Nugent, . 6 00
For the next best, to James McTear, . . . 5 00
For the next best, to Evers & Comley, . . . 4 00
For the next best, to Mrs. Benjamin Bruce, . . . 3 00
For the next best, not awarded, ... 2 00
HYACINTHS.—For the best display, not less than ten named varieties, not awarded, ... 4 00
For the next best, not awarded, ... 2 00
POT PLANTS—regard being had to new and rare varieties—
For the best specimen plant, of a kind for which no special prize is offered, to Evers & Comley, . . . 10 00
For the next best, to Marshall P. Wilder, . . . 8 00
For the next best, to Hovey & Co., ... 6 00
For the next best, to James McTear, . . . 4 00
TULIPS.—For the best twenty distinct named varieties, (not awarded,) a prize of 4 00
For the next best, not awarded, ... 2 00
For the next best, do. 1 00
PANSIES.—For the best twelve distinct varieties, in pots, to Martin Trautman, a prize of 4 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00
PARLOR BOUQUETS.—For the best pair, not awarded, . . 3 00
For the next best, not awarded, ... 2 00
HAND BOUQUETS.—For the best pair, to Martin Trautman, . 2 00
For the next best, not awarded, ... 1 00

Saturday, June 2d.

POT PLANTS.—For the best display, not less than six, not awarded, 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
SPECIMEN PLANT.—For the best, not awarded, . . . 3 00
For the next best, not awarded, ... 2 00
CUT FLOWERS.—For the best display, filling not less than 150 bottles, to James Nugent, ... 4 00
For the next best, not awarded. 3 00
For the next best, do. 1 00
HARDY AZALEAS.—For the best display of named varieties, not awarded, ... 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 2 00

SHRUBBY PÆONIES.—For the best six named varieties, to Marshall P. Wilder, ... $5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00

Saturday, June 9th.

POT PLANTS.—For the best display, not less than six, not awarded, 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
SPECIMEN PLANT.—For the best, not awarded, . . . 3 00
For the next best, not awarded, ... 2 00
CUT FLOWERS.—For the best display, filling not less than 150 bottles, to Antane Apple, ... 4 00
For the next best, to James Nugent, . . . 3 00
For the next best, to Martin Trautman, . . . 1 00

Saturday, June 16th.

HERBACEOUS PÆONIES.—For the best ten named varieties, to Marshall P. Wilder, ... 5 00
For the next best, to Antane Apple, . . . 4 00
For the next best, not awarded, ... 3 00
PINKS.—For the best six distinct named varieties, not awarded, . 4 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00
POT PLANTS.—For the best display, not less than six, not awarded, 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
SPECIMEN PLANT.—For the best, not awarded, . . . 3 00
For the next best, not awarded, ... 2 00
CUT FLOWERS.—For the best display, filling not less than 150 bottles, to Antane Apple, ... 4 00
For the next best, to James Nugent, . . . 3 00
For the next best, to Martin Trautman, . . . 1 00

Saturday, June 23d.

POT PLANTS.—For the best display, not less than six, not awarded, 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
SPECIMEN PLANT.—For the best, to Edward S. Rand, . . 3 00
For the next best, not awarded, ... 2 00
CUT FLOWERS.—For the best display, filling not less than 150 bottles, to James Nugent, ... 4 00
For the next best, to Antane Apple, ... 3 00
For the next best, to Martin Trautman, . . . 1 00
HARDY RHODODENDRONS.—For the best display of the season, of named varieties, not awarded, ... 4 00
For the next best, do. 2 00

ROSE SHOW.

Class I.

Hardy June Roses.—For the best thirty distinct named varieties, to Hovey & Co., ... $6 00
For the next best, to Antane Apple, ... 4 00
For the next best, to Marshall P. Wilder, ... 3 00

Class II.

For the best twenty distinct named varieties, not awarded, . 5 00
For the next best, to G. G. Hubbard, ... 3 00
For the next best, not awarded, ... 2 00

Class III.

For the best twelve distinct named varieties, to James Nugent, 4 00
For the next best, to Hovey & Co., ... 2 00
For the next best, not awarded, ... , 1 00

Class IV.

Hardy Climbing Roses.—For the best display, not less than four named varieties, not awarded, . . . 3 00
For the next best, not less than four, not awarded, . . 2 00
For the next best, not less than four, do. . . 1 00

Class V.

Hardy Perpetual Roses.—For the best twenty-five named varieties, to Antane Apple, ... 6 00
For the next best, to Hovey & Co., ... 4 00
For the next best, to Warren Heustis, ... 3 00
For the next best, not awarded, ... 2 00

Class VI.

For the best fifteen named varieties, to Francis Parkman, . 4 00
For the next best, to Antane Apple, ... 3 00
For the next best, to Evers & Comley, ... 2 00

Class VII.

For the best ten named varieties, to James McTear, a prize of 3 00
For the next best, to Evers & Comley, ... 2 00
For the next best, to Francis Parkman, ... 1 00

Class VIII.

Moss Roses.—For the best display of named varieties, to Hovey & Co., ... 4 00
For the next best, not awarded, ... 2 00

Class IX.

Bourbon Roses.—For the best display of named varieties, not less than six, not awarded, ... 3 00
For the next best, do. 2 00

Class X.

Large Bouquets of Roses.—For the best two, to Evers & Comley, ... 4 00
For the next best, not awarded, ... 3 00

Class XI.

Tender Roses.—For the best display of named varieties, not less than ten, to James Nugent, ... $4 00
For the next best, not awarded, ... 3 00
For the next best, do. 2 00

Saturday, June 30th.

Pot Plants.—For the best display, not less than six, not awarded, 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
Specimen Plant.—For the best, not awarded, . . . 3 00
For the next best, not awarded, ... 2 00
Cut Flowers.—For the best display, filling not less than 150 bottles, to Antane Apple, ... 4 00
For the next best, to James Nugent, . . . 3 00
For the next best, to Evers & Comley, . . . 1 00

Saturday, July 7th.

Pot Plants.—For the best display, not less than six, to Evers & Comley, ... 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
Specimen Plant.—For the best, not awarded, . . . 3 00
For the next best, not awarded, ... 2 00
Cut Flowers.—For the best display, filling not less than 150 bottles, to Antane Apple, ... 4 00
For the next best, to G. G. Hubbard, . . . 3 00
For the next best, to James Nugent, . . . 1 00

Saturday, July 14th.

Pot Plants.—For the best display, not less than six, to Evers & Comley, ... 5 00
For the next best, to Hovey & Co., ... 4 00
For the next best, not awarded, ... 3 00
Specimen Plant.—For the best, to Evers & Comley, . . 3 00
For the next best, to Hovey & Co., ... 2 00
Cut Flowers.—For the best display, filling not less than 150 bottles, to Hovey & Co., ... 4 00
For the next best, to James McTear, . . . 3 00
For the next best, to James Nugent, ... 1 00

Saturday, July 21st.

Pot Plants.—For the best display, not less than six, to Hovey & Co., ... 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
Specimen Plant.—For the best, to Evers & Comley, . . 3 00
For the next best, to Jonathan French, . . . 2 00

Cut Flowers.—For the best display, filling not less than 150 bottles, to Hovey & Co.,	$4 00
For the next best, to Antane Apple,	3 00
For the next best, to Jonathan French,	1 00
Summer Phloxes.—For the best ten distinct named varieties, not awarded,	5 00
For the next best, not awarded,	4 00
For the next best, do.	3 00
Carnations.—For the best ten named varieties, to Hovey & Co.,	4 00
For the next best, to Jonathan French,	3 00
For the next best, not awarded,	2 00
Picotees.—For the best ten named varieties, to Hovey & Co.,	3 00
For the next best, to Jonathan French,	2 00
For the next best, to James Nugent,	1 00
Hollyhocks.—For the best twelve named varieties, to Hovey & Co.,	3 00
For the next best, not awarded,	2 00
For the next best, do.	1 00
Gloxinias.—For the best six pots, not awarded,	6 00
For the next best, not awarded,	4 00
For the best new seedling, Society's silver medal, not awarded.	

Saturday, July 28th.

Pot Plants.—For the best display, not less than six, not awarded,	5 00
For the next best, to Evers & Comley,	4 00
For the next best, not awarded,	3 00
Specimen Plant.—For the best, to James McTear,	3 00
For the next best, to Evers & Comley,	2 00
Cut Flowers.—For the best display, filling not less than 150 bottles, to Barnes & Washburn,	4 00
For the next best, to Hovey & Co.,	3 00
For the next best, to F. Winship,	1 00

Saturday, August 4th.

Cut Flowers.—For the best display, filling not less than 150 bottles, to Hovey & Co.,	4 00
For the next best, to Barnes & Washburn,	3 00
For the next best, to Evers & Comley,	1 00

Saturday, August 11th.

Cut Flowers.—For the best display, filling not less than 150 bottles, to Hovey & Co.,	4 00
For the next best, to Barnes & Washburn,	3 00
For the next best. to Antane Apple,	1 00

Saturday, August 18th.

Cut Flowers.—For the best display, filling not less than 150 bottles, to Hovey & Co.,	4 00

For the next best, to Barnes & Washburn, . . . $3 00
For the next best, to Franklin Winship, . . . 1 00
PHLOXES.—For the best ten distinct named varieties, to Hovey & Co., ... 5 00
For the next best, to Antane Apple, ... 4 00
For the next best, to Barnes & Washburn, . . . 3 00
PETUNIAS.—For the best collection, to Hovey & Co., . . 3 00
For the next best, to Martin Trautman, . . . 2 00
For the next best. not awarded, ... 1 00
GLADIOLUS, GANDAVENSIS and FLORIBUNDUS varieties.—For the best ten varieties, in spikes, to Hovey & Co.. . . 5 00
For the next best, to William H. Spooner, Jr., . . 4 00
For the next best, to Barnes & Washburn, . . . 3 00

Saturday, August 25th.

CUT FLOWERS.—For the best display, filling not less than 150 bottles, to Eliphalet Stone, ... 4 00
For the next best, to Antane Apple, ... 3 00
For the next best, to James Nugent, ... 1 00

Saturday, September 1st.

CUT FLOWERS.—For the best display, filling not less than 150 bottles, to Barnes & Washburn, ... 4 00
For the next best, to Antane Apple, ... 3 00
For the next best, to Martin Trautman, . . . 1 00
GERMAN ASTERS.—For the best thirty flowers, not less than ten varieties, to Evers & Comley, ... 5 00
For the next best, to Thomas Walsh, . . . 4 00
For the next best, to Barnes & Washburn, . . . 3 00
For the next best, to Hovey & Co., ... 2 00
VERBENAS.—For the best named collection, of twenty-four varieties, a single truss of each, to Antane Apple, a prize of . 4 00
For the next best, to William H. Spooner, Jr., . . 3 00
For the next best, to James McTear, . . . 2 00
For the best new seedling, with foliage, the Society's silver medal, not awarded.

Saturday, September 8th.

CUT FLOWERS.—For the best display, filling not less than 150 bottles, to Hovey & Co., ... 4 00
For the next best, to Barnes & Washburn, . . . 3 00
For the next best, to Franklin Winship, . . . 1 00
DAHLIAS.—*Specimen Bloom*—For the best named flower, to Hovey & Co., ... 2 00

CLASS I.

For the best eighteen named dissimilar blooms, to Barnes & Washburn, ... 6 00
For the next best, to Hovey & Co., ... 3 00

CLASS II.

For the best twelve dissimilar named blossoms, to Martin Trautman, a prize of $4 00

CLASS III.

For the best six named dissimilar blooms, to James Nugent, . 2 00
For the next best, to Barnes & Washburn, ... 1 00

PRIZES AWARDED AT THE ANNUAL EXHIBITION.

BOUQUETS.—For the best pair, suitable for the Bradlee Vases, a prize of the Bradlee plate, to Evers & Comley, valued at 10 00
For the best pair, suitable for the Jones Vases, to Hovey & Co., a prize of 10 00
PARLOR BOUQUETS.—For the best pair, to James Nugent, a prize of 7 00
For the next best, to Marshall P. Wilder, . . . 6 00
For the next best, to Martin Trautman, . . . 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
For the next best, to James McTear, . . . 2 00
MANTEL BOUQUETS.—For the best pair, not awarded, . . 5 00
For the next best, to William E. Carter, . . . 3 00
HAND BOUQUETS.—For the best four, to Martin Trautman, . 5 00
For the next best, not awarded, ... 4 00
For the next best, do. 3 00
CUT FLOWERS.—For the best display, and best kept during the exhibition, to Hovey & Co., a prize of . . . 15 00
For the next best, to Barnes & Washburn, . . . 12 00
For the next best, to Charles Copeland, . . . 10 00
For the next best, to G. G. Hubbard, . . . 8 00
For the next best, to Franklin Winship, . . . 6 00
ACHIMENES —For the best six pots, not larger than 12-inch, not awarded, ... 5 00
For the next best, not awarded, ... 3 00

The following additional prizes were awarded at the Annual Exhibition:—

PLANTS IN POTS.—For the best collection, of not less than twenty varieties, to Hovey & Co., ... 25 00
For the next best, to Evers & Comley, . . . 20 00
For the next best, not awarded, ... 15 00
For the next best, do. 10 00
For the best ten varieties, in bloom, not awarded, . . 12 00
For the next best, not awarded, ... 10 00
For the next best, do. 8 00
SPECIMEN PLANT.—For the best, to G. G. Hubbard, . . 8 00
For the next best, to Evers & Comley, . . . 6 00
For the next best, to Azell Bowditch, . . . 4 00

Variegated-leaved Plants.—For the best collection, not less than ten varieties, to Hovey & Co.,	$8 00
For the next best, to Evers & Comley,	5 00
For the next best, to Martin Trautman,	3 00
For the best single specimen, to Hovey & Co.,	5 00
For the next best, to G. G. Hubbard,	3 00
Ferns and Lycopodiums.—For the best collection, not less than ten varieties, to Hovey & Co.,	5 00
For the next best, to Evers & Comley,	3 00
For the next best, to Martin Trautman,	2 00
Orchids.—For the best display, not less than five specimens, not awarded,	10 00
For the next best, not awarded,	7 00
For the next best, do.	5 00
Dahlias.—For the best fifty blooms (dahlias not being included in the prizes for cut flowers), to Barnes & Washburn,	5 00
For the next best, to Charles Copeland,	3 00
For the next best, to Hovey & Co.,	2 00

Saturday, November 17th.

Parlor Bouquets.—For the best three, not awarded,	3 00
For the next best, not awarded,	2 00
Hand Bouquets.—For the best three, not awarded,	2 00
For the next best, not awarded,	1 00

GRATUITIES.

The Committee have awarded the following Gratuities:—

To Evers & Comley, for display of epacris,	$1 00
do. do. for variegated daisy,	1 00
do. do. for collection of ferns,	8 00
do. do. for collection of begonias,	8 00
do. do. for maranta regalis,	1 00
do. do. for Tillansia acaulis zebrina,	1 00
do. do. for native plants,	2 00
do. do. for displays at various times,	13 00
To Martin Trautman, for pot plants,	6 00
do. do. for auriculas,	2 00
do. do. for seedling petunias,	2 00
do. do. for Dianthus Hedwegii,	1 00
do. do. for displays at various times,	6 00
To Hovey & Co., for camellias,	2 00
do. do. for azalea,	4 00
do. do. for collection of plants,	8 00
do. do. for petunias,	2 00
do. do. for seedling pelargoniums,	2 00

To Hovey & Co., for Dianthus Hedwegii,	$1 00
do. do. for display of roses,	2 00
do. do. for Pteris argyrea,	3 00
do. do. for Rondeletia speciosa major,	1 00
do. do. for seedling cereus,	1 00
do. do. for displays at various times,	6 00
To Antane Apple, for azaleas and ericas,	3 00
do. do. for collection of roses,	5 00
do. do. for displays at various times,	5 00
To Wm. C. Strong, for seedling pelargonium,	1 00
do. do. for fine gloxinias,	2 00
do. do. for displays,	4 00
To James Nugent, for collection of roses,	2 00
do. do. for displays,	9 00
To James McTear, for fuchsia Rose of Castile,	1 00
do. do. for bouquets,	3 00
do. do. for displays,	16 00
To Mrs. Benjamin Bruce, for bouquet,	1 00
do. do. do. for displays,	5 00
To Marshall P. Wilder, for display of plants,	6 00
do. do. for collection of roses,	5 00
do. do. Stephanotus floribundus,	3 00
To Wm. H. Spooner, Jr., for fine verbenas,	3 00
do. do. for fine Iris,	3 00
do. do. for the same,	1 00
do. do. for fine Antirrhinums,	1 00
do. do. for displays,	7 00
To Cambridge Botanic Garden, for cut flowers,	2 00
do. do. do. for collection of plants,	5 00
To William T. Merrifield, for fine display of plants,	8 00
To Edward S. Rand, for Maxillaria Harrisonii,	1 00
do. do. for Lycaste aromatica,	1 00
do. do. for Pavetta Bourbonica,	5 00
do. do. for Cattleya Forbesii,	3 00
do. do. Coelogyne Wallichiana,	3 00
To J. Egerton, for floral decoration,	3 00
" A. C. Bowditch, for pressed flowers,	Society's silver medal.
" Azell Bowditch, for displays,	1 00
" E. G. Kelley, for cut flowers,	1 00
" E. A. Story, for the same,	9 00
" Miss S. W. Story, for floral decorations,	2 00
do. do. for wreaths,	1 00
do. do. for baskets,	2 00
do. do. for bouquets,	1 00
To J. A. Kenrick, for magnolia,	1 00
do. do. for displays,	5 00
To Miss Annie C. Kenrick, for baskets of flowers,	4 00
" Miss S. A. Russell, for displays,	4 00

To Eliphalet Stone, for displays of roses,	$21 00
" Miss E. M. Harris, for bouquets,	2 00
do. do. for wreaths,	3 00
do. do. for displays,	1 00
To G. G. Hubbard, for collection of roses,	2 00
do. do. for displays,	5 00
To Warren Heustis, for display of roses,	2 00
" Charles Copeland, for the same,	10 00
" Francis Parkman, for delphiniums,	1 00
do. do. for roses,	1 00
do. do. for displays,	1 00
To J. C. Chaffin, for display of roses,	1 00
" Miss M. P. Wilson, for display,	1 00
" Miss M. A. Munroe, for the same,	1 00
" R. W. Lincoln, for Kalmia latifolia,	2 00
" Thos. Smallwood, for display,	1 00
" Wm. E. Carter, for bouquets,	2 00
" Thomas Walsh, for displays,	12 00
" J. J. Stone, for display,	1 00
" J. F. C. Hyde, for the same,	1 00
do. do. for seedling carnation,	Society's silver medal.
To J. W. Walcott, for displays,	6 00
" Dennis Murray, for native plants,	6 00
do. do. for pressed native orchids,	2 00
do. do. for fungi,	1 00
To Franklin Winship, for displays,	10 00
" F. Thieler, for balsams,	1 00
" Mrs. Wetherell, for bouquets,	1 00
" Mrs. Abner Pierce, for display,	1 00
" Robert Watt, for asters,	1 00
" Miss Hovey, for display,	1 00
" Miss Hudson, for basket,	1 00
" Wm. Wheelwright, for Peristeria elata,	1 00
" Miss Driscoll, for display,	1 00

The following Gratuities were awarded at the Annual Exhibition:—

To Chas. S. Storrow, for dahlias,	$3 00
" Wm. T. Emerson, for lemon tree,	1 00
" Mrs. Wm. Kenrick, for display,	1 00
" Fred. Lamson, for baskets of flowers,	2 00
" Miss Annie Story, for pressed flowers,	1 00
" Fred. Lockwood, for decoration,	1 00
" Miss M. E. Capen, for pressed leaves,	1 00
" Mrs. Wm. Whiting, for bouquets,	3 00
" Mrs. Abner Pierce, for decoration,	1 00
" Dennis Murray, for Sparissis crispa,	1 00
do. do. for variegated natives,	1 00

To Thomas Walsh, for grass bouquets,	$1 00
do. do. for coxcombs,	1 00
To Mrs. Thomas Walsh, for grass bouquets,	1 00
" Miss M. A. Munroe, for wreath,	2 00
" Francis Parkman, for delphiniums,	1 00
" Warren Heustis, for cut flowers,	4 00
" Miss E. M. Harris, for pressed flowers,	2 00
" Eliphalet Stone, for cut flowers,	4 00
" Miss S. A. Russell, for bouquets,	3 00
do. do. for basket,	1 00
To Miss S. W. Story, for decoration,	1 00
" Mrs. E. A. Story, for the same,	1 00
" Mrs. C. M. Bowditch, for pressed flowers,	3 00
" Mrs. E. E. Bowditch, for basket,	2 00
" Azell Bowditch, for cut flowers,	4 00
" Wm. T. Merrifield, for fine variegated-leaved plants,	10 00
" Edward S. Rand, Jr., for Trichosanthes colubrina,	1 00
" Cambridge Botanic Garden, for native plants,	3 00
do. do. do. for Trichosanthes colubrina,	1 00
" Wm. H. Spooner, Jr., for gladiolus,	2 00
" James McTear, for plants,	3 00
do. do. for cut flowers,	4 00
To James Nugent, for variegated Hydrangea,	1 00
" Hovey & Co., for Cyanophyllum Assamicum,	1 00
" Martin Trautman, for Passiflora quadrangularis,	3 00
do. do. for cut flowers,	4 00

The Committee have also awarded the following Gratuities for fine displays:—

To Joseph Breck,	$25 00
" Antane Apple,	15 00
" James McTear,	10 00
" M. Trautman,	8 00
" James Nugent,	10 00
" Wm. H. Spooner, Jr.,	5 00
" F. Winship,	5 00
" Miss Story,	5 00
" J. A. Kenrick,	5 00
" D. Zirngible,	10 00
" Thomas Walsh,	5 00
" Wm. C. Strong,	5 00

Edward S. Rand, Jr.,
Geo. W. Pratt,
A. Apple,
James McTear,
Thos. G. Whytal,
C. H. B. Breck,
Wm. J. Underwood,
} *Committee.*

REPORT OF THE COMMITTEE ON FRUITS,

FOR THE YEAR 1860.

BY JAMES F. C. HYDE, CHAIRMAN, PRO TEM.

The Fruit Committee, in accordance with the rules of the society, submit their Annual Report. It has been the practice in years past for the Chairman to make a lengthy Report of the exhibitions during the season of new fruits, and other matters of interest, before announcing the award of premiums. These reports have in past years been of considerable value. The Chairman of our Committee having been absent in Europe during nearly all of the past year, the making of this Report devolves upon a chairman *pro tem.*, and it will not be found to be so full and complete as it would otherwise have been. The past year has been in some respects quite remarkable, for during the months of April and May, when there is usually an abundance of rain, there was very little; but about the first of June, the rains commenced, and from that time forward the earth was well supplied. Though the drouth was severe yet nothing seemed to suffer. The fruit trees came on well, and presented a beautiful bloom, giving promise of the abundant harvest that was fully realized in the autumn. It has been observed that all the fruits, and especially the pears, have been deficient in flavor the past season, which may have been in consequence of the great amount of wet weather. It has been impossible to form a correct opinion of the merits of new pears from having tested them this year. The same will apply in a measure to other fruits.

The winter fruit, apples and pears, have ripened up a month or more earlier this year than usual, while the pears have an unusual tendency to decay. It is the opinion of the most intelligent fruit-growers that the early and severe frost we had was partly the cause of this. Such pears as Winter Nelis, Lawrence and Glout Morceau, were fully ripe in the autumn months, and before winter fairly set in there were comparatively few pears to be found. The season has been one very favorable for the growth of trees, and fears are entertained by some that pear trees may suffer during the approaching winter. Fruit of all kinds has been very abundant and comparatively cheap. It is doubtful if money can be made by raising apples at the prices they have been sold for this fall. So it is doubtful if the cultivation of pears can be made profitable, unless under favorable circumstances, and by good management. In proof of this position we would ask, how many have succeeded in growing good fruit, and profitable crops, out of the great number that have engaged in this pursuit? Very few. This often arises from a poor situation, neglect, or bad management, or perhaps an unfortunate selection of kinds. While this is true, it is equally true that some have been very successful with this fruit, and what has been done may be done again. It is a fine fruit, and even though it may not be grown to profit in all cases, still should be grown for home use, let it cost what it will. This rule will apply to all fruits, for no home would be complete without such luxuries.

STRAWBERRIES.

The crop of strawberries this year was very fine, except in a few instances where the vines blasted. The Brighton Pine blasted badly in some localities. The show of this fruit at the rooms of the Society during the season was very fine. Most of the old sorts and some new ones have been exhibited. Hovey's Seedling still maintains its high reputation, both as a market fruit and for amateur cultivation. No variety perhaps is more profitable when properly cultivated. The Jenny Lind has appeared well from year to year, and is a favorite variety to grow with the Hovey's Seedling or separately; though not of the highest quality, yet very desirable on account of its size and earliness.

Brighton Pine has done well in most cases, though it has blasted more than most other sorts. It is a fruit of good size, firm, good color and flavor. A desirable sort.

Scott's Seedling is not considered worthy of general cultivation.

Lady of the Lake, is a seedling from the Brighton Pine. Large, and said to be very productive, yet is coarse in appearance and texture, and of second quality. Does not seem to be desirable.

Cutter's Seedling is a comparatively new sort, of fair quality, medium size, color similar to Jenny Lind. Its value will depend upon its hardiness and productiveness. Though it has not been fully tested, yet it seems to show good qualities.

A strawberry shown by Messrs. Bunce & Co. was new to the Committee. It was of medium size, color rather light, fine texture, not very firm, flavor good, lacks spirit somewhat. Worthy of a further trial.

Hooker.—Color dark red, like Wilson's Albany, though more glossy; good size, acid, and of high flavor; not always hardy. It does not seem to be a desirable sort for this region.

Wilson's Albany—Is of a dark, dull, dirty color; good size, very productive, but very acid and of poor quality; unworthy of general cultivation.

La Constance.—This is a new French variety exhibited for the first time this season, by Hovey & Co. Fruit very large, color of Hovey's Seedling, of regular conical form, quite firm, flavor good, great bearer, and may prove a valuable variety for amateurs.

Wonderful.—A new English variety, large size, coxcomb shape, dark color, firm, flavor good; said to be very productive.

May Queen.—Same origin as the last; small, early, flavor fair; same season as Jenny Lind; not desirable.

Bonté de St. Julien.—A foreign sort. Fruit large, color rich crimson, coxcomb shape, flavor peculiar, great bearer.

Duke de Malakoff.—Large size, color dark, flavor decidedly poor, not worthy of cultivation.

La Belle Bordelaise.—A French variety of strong Hautbois flavor, highly esteemed by some and as strongly disliked by others; very productive. To amateurs who are fond of a strawberry of this flavor, it is of value. None of the foreign sorts rank high when compared with the best American varieties, and are not desirable for general cultivation. Experience

has shown that Hovey's Seedling, with some varieties for impregnation, is one of the very best sorts known. Jenny Lind and Brighton Pine are varieties worthy of general cultivation. Some would include Boston Pine, which is a fruit of high flavor, but not first-rate for market, as it does not hold its color well. It is sometimes grown with Hovey's Seedling. The strawberry crop is one of considerable importance around our large cities, and the Society has been very liberal in offering premiums for this delicious fruit. While so many new varieties are being brought forward, from year to year, it becomes of the highest importance that every new variety should be thoroughly tested and fully endorsed by some Horticultural Society before the public should venture to purchase very largely of it, unless they are anxious to be cheated out of their money and labor. Of all the new sorts that have been introduced within a few years, few stand the test for this part of the country, while a host of such varieties as Peabody, Wilson's Albany, Richardson's Early, Late, and Cambridge, Scott's Seedling, McAvoy's Superior, and many other American sorts, to say nothing of the legion of foreign sorts, which have in almost every instance proved failures, have been or soon will be forgotten, as they deserve to be. There is still room for improvement in this fruit, for the public very much want, what it is feared they will not soon get, a variety which will combine the size and color of the Hovey's Seedling, the flavor of Burr's New Pine, or Boston Pine, the hardiness of the Wild Strawberry, and the productiveness of the Wilson's Albany. The man who shall obtain such a sort may venture to introduce it with the fullest assurance that he will be richly rewarded. We have read during the past year of sorts that promise all this, and perhaps more, such as Feast's Fillmore, Great Austin Shaker Seedling, Wizard of the North, Triomphe de Gand, and others that are already or soon will be for sale. It will be well to try them on a small scale at first, for it is very doubtful if they will all prove acquisitions.

CHERRIES.

The show of Cherries at the rooms was much better the past season than the year previous. The Black Tartarian takes the lead for size and quality. Black Eagle was as fine as usual. The Cumberland appeared very well. The Downer is, perhaps, all things considered, one of the most valuable sorts. It is grown extensively for market.

RASPBERRIES.

This fruit was produced this year in great perfection. The varieties most extensively cultivated are Franconia, which is grown by market gardeners; Knevett's Giant, which does not bear transportation as well as the former variety, though a very much better fruit; and the Brincklé's Orange, which is very handsome and productive, but not a favorite with the market farmers.

CURRANTS.

A great many specimens of Currants were shown, and some of them of very large size. A new and very pretty currant, the Gloire of Sablons,

has been introduced from France. It is very small, acid, and valuable only on account of its unique and pretty striped appearance. The Cherry Currant, which is extensively cultivated, is a very large, coarse, acid variety of decidedly poor quality. It may do for a market fruit until it is more fully known. La Caucase, Versaillaise, Red and White Grape, and many other sorts have been shown, which appear well; but, so far as your Committee can judge, the old sorts, Red and White Dutch, still maintain their position at the top of the list.

GOOSEBERRIES.

The exhibition of Gooseberries was very fine. Two or three contributed English sorts grown to great perfection. Of the American varieties, Houghton's Seedling and Mountain Seedling take the lead. The latter is a new sort that originated among the Shakers at New Lebanon, New York, and on account of its erect habit, great productiveness, good size, and freedom from mildew, promises to be a valuable acquisition, though the fruit is not of the very highest quality.

BLACKBERRIES.

The display of this fruit has never been surpassed. Some two or three contributors lead off with this fruit in a surprising manner. The Dorchester seems to be the favorite, while the Lawton is not extensively cultivated.

PLUMS.

A few contributors have shown fine specimens of this fruit. It is not very extensively grown in this vicinity.

PEACHES.

The crop of peaches was good this year and some splendid specimens of Coolidge's Favorite, Crawford's Early, and other well-known sorts were on our tables. There is strong reason to believe that the peach is recovering from its diseased condition, and that we shall again be able to raise peaches as of old. We hope this may be the case, for no fruit is perhaps more delicious, while it may be eaten freely by sick and well without fear of injurious consequences.

GRAPES.

The crop of Grapes this year has been almost an entire failure. It is true there have been a few fine ones exhibited that were grown in particularly favorable localities. But these cases are only exceptions to the general fact. It is certain that we must have one of two things if we would have ripe grapes, either longer and warmer seasons, a matter over which we have no great control, or new varieties that will ripen earlier than those now cultivated. We are obliged to go without grapes two years out of three. Even the Concord, that is claimed to be ten days or a fortnight earlier than the Isabella, did not as a general thing ripen this year. What is true of this variety is true of all varieties of good quality. There were some grapes shown at our rooms, by Mr. James Hill, as early as September first, but they were so outrageously poor that your Committee feel

called upon to caution the public against them unless they desire a very bad grape; one that is so foxy and hard as scarcely to be eatable. A few Diana, Delaware, Hartford Prolific, and other grapes, were shown, of very satisfactory appearance.

Allen's Hybrid and Allen's No. 13 were on exhibition several times, and were tested by your Committee.

The former is a grape of the best quality, and said to be hardy. If such should prove to be the case, and our seasons will allow of its ripening, it must be a valuable sort. Of the No. 13, we cannot say as much in praise, though time may prove it to be equally valuable. A grape was sent to the Society called the Ontario, but your Committee believe it to be identical with Union Village. It is evident that the cultivation of hardy grapes in this State has thus far been nearly or quite a failure; and yet every year there are new varieties announced that are superior to all others, the best grape in the world, and to be just what the public need, which, after a fair trial, prove to be no better, if as good as the old and well-known varieties. There is a broad field open for experiment in this direction, and he who will produce a *good* grape, that will ripen every year, will prove a true benefactor. The grape is a luxury which the people should have within their reach, for any one who has a square yard of ground can plant a grape vine, and had better do so, if a variety can be found that will ripen.

APPLES.

The past year has been one of great fruitfulness, and the apple has yielded its fruit in great abundance. It has been the bearing year with the Baldwin, a variety which is largely cultivated in this region. The display of apples of all kinds, at the weekly exhibitions and at the Annual Show, has never been surpassed, if equalled. The tables at the Music Hall were loaded to their fullest capacity, and yet there was not room for all the fruit, and especially for the apples that were brought in. Among the newer kinds the Primate, Gravenstein and Washington hold high rank. The list of apples is very large, and yearly increasing. The Pomological Society should condemn and entirely discard many of the poorer sorts.

PEARS.

The crop of this fruit has been remarkably large this year. Never, in the history of the country, have pears sold so low in Boston market as during the month of September of this year. Bartlett pears, of good quality, sold as low as two dollars per bushel, while those of inferior quality sold at a still lower rate. This may not be the case again for many years. It is desirable to have the price reasonably low, so that the people may buy and eat of this fruit. The varieties of pears are so numerous that a novice is lost in wonder and bewilderment when he takes up the Catalogues of our nurserymen to select a dozen or two trees for his own garden. The question is often asked, what varieties shall we raise? One of our intelligent cultivators will answer, plant for six varieties, Bartlett, Seckel, Beurré Bosc, Fulton, Winter Nelis, and Buffum. Another would

add, or substitute, Beurré d'Anjou, Merriam, Louise Bonne de Jersey, Flemish Beauty, Sheldon, Swan's Orange, and other sorts. The Glout Morceau has done unusually well this year. It is pretty certain if a soil is at all adapted to the production of pears one cannot get far astray if he plants these sorts, while experience may teach him that there are other varieties that can be grown to profit. Some new varieties have been shown during the past season. The Hovey, or Dana's No. 16, has been before the Society for several years, and has fully sustained the high opinion at first entertained concerning it. It is a pear of the highest quality, of fair size, and long-keeping for an autumn pear; a vigorous, symmetrical grower, with beautiful, glossy, camellia-like foliage. It promises to take a high rank among our best pears. The Committee have examined and tested several of Mr. Dana's other seedlings, including the Mace, Ladies' Favorite, and others, not yet named, but do not consider them of any particular value. Mr. Dana has been very successful in producing new seedlings, several of which have found their way into the Catalogues of the nurserymen.

Mr. Thaddeus Clapp exhibited the fruit of several seedling pears, raised by him from seed planted in 1848. The following descriptions were kindly furnished by Mr. Clapp:—

"Seedling, No. 1. This pear was raised from the seed of the Flemish Beauty, and, in many respects, as to quality, time of ripening, and external appearance, resembles its parent, except it is more globular in form, and inferior in size. In flavor, however, it is more sprightly and vinous, and hence, by some tastes, preferred. Ripe, from the second to the last week in September. Tree, vigorous and productive."

The Committee did not regard this pear as particularly valuable, from its near resemblance to its parent, without any advantages over it.

"Seedling, No. 2. On exhibition at the Horticultural Rooms, September first. This is, perhaps, a seedling of the Seckel, which it resembles in form and quality. Size, nearly medium; skin, of a greenish russet, becoming yellow towards maturity; flesh, rich, sweet and juicy. The fruit should be picked early, for, if allowed to mature on the tree, it is apt to become dry and mealy. Ripe, from the middle to the last of August."

The Committee believe this pear to be well worthy of a further trial.

"Seedling, No. 3, or Clapp's Favorite. This tree has, from the first, attracted attention, on account of its vigorous growth and the beauty of its foliage. It presents a smooth trunk, the lower branches horizontal, or gently inclined; upper ones erect, and thickly set with fruit-spurs; leaves, large, of a deep glossy green, thick and camellia-like. *It has never shown a thorn.* Through favor of Col. Wilder, I here avail myself of a description of the fruit, as furnished him by Mr. Charles Downing." "Clapp's Favorite. Fruit, large, obovate, pyriform; greatest diameter, towards the centre; slightly angular, surface uneven; somewhat in general appearance like the Bartlett; skin, very thin, pale lemon-yellow, marbled and faintly splashed with crimson and fawn, when fully exposed to the sun, and thickly sprinkled with brown dots, and sometimes slight traces of russet.

Stalk, nearly an inch long, stout, and somewhat fleshy, a little inclined, inserted in a slight depression; calyx open, or partially closed, segments stiff and erect; basin shallow, slightly corrugated. Flesh, white, fine, juicy, buttery, melting, with a rich, sweet, delicate vinous flavor, a little perfumed. A new, promising fruit. Ripe, last week of August and first week of September."

This is truly one of the most promising varieties that has come before your Committee, and they do not hesitate to say that they believe it will be a great acquisition to our early autumnal pears.

"Seedling, No. 4, or Dorchester Beauty. The tree is a fine grower, and very productive. I here insert a description from the same source as the preceding. Size, rather large, 2¾ by 2⅝ inches; form, obovate; skin, yellow, with a carmine cheek, inclining to orange, and containing a few gray dots; stem, three fourths of an inch long, inserted in a very small cavity, with several faint rings; calyx, medium; segments, erect, set in a superficial plaited basin; core, medium; seed, plump, light brown; flesh, not very juicy; flavor, pleasant; quality, very good. Ripe, from the middle of August to the middle of September. In size and attractiveness so prepossessing that it is worthy of cultivation."

This is one of the most beautiful looking pears that have been produced, but the specimens tested by the Committee were dry, and of ordinary quality. The past season having been unfavorable for the production of fruit of high flavor, it is not safe to express a very decided opinion of any new fruit.

"Seedling, No. 20. The form of this pear resembles that of the Marie Louise; size, somewhat above medium; skin, greenish; flesh, fine-grained, melting and juicy, and so nearly resembling the Bartlett in flavor as scarcely to be distinguished from it; hence, probably, a seedling of that variety. The fruit keeps well, not rotting at the core, and is in use from the last week in September to the middle of October."

This fruit was twice tested by the Committee, and they are unanimously of the opinion that it never will be a desirable sort. The flavor is like the unpleasant part of the flavor of the Bartlett, intensified. Mr. Clapp is an intelligent cultivator, and we shall watch his experiments with a good deal of interest, and if he never gives to the world another pear except the Clapp's Favorite, he will long be remembered.

Hon. Samuel Walker placed upon the tables his new seedling pear, which is said to be very productive. It is a pear of medium size, russet color, with red cheek, stout stem, and of a very remarkable strong cinnamon flavor. This is a chance seedling, and certainly a promising one.

There was a pear brought into the annual exhibition by J. F. C. Hyde, from the farm of Mr. William Aiken, of Newton Centre, which was supposed to be the St. Michael. The best judges could not agree upon what to call it, for, though it resembled some of the old sorts, yet it was somewhat peculiar. After a careful examination of the tree, there is little doubt but that it is a seedling. If it should prove to be a new variety, it will be

a valuable addition to our list of pears, as all agree that it is of the first quality, good size, and ripens the last of September to the first of October.

A seedling pear, which was sent from New Haven by Mr. E. E. Clark, appears to be a seedling of the Jargonelle, and promises to be of some value. Other seedling pears have been tested, but none found to possess any considerable merit.

Among the older sorts that appeared well on the tables, were Supreme de Quimper, Pinneo, Ott, Brandywine, Sterling, Tyson, Dearborn's Seedling, Bartlett, and others among the early varieties. Among the fall pears, Beurré Superfin, Beurré Sterkman or Hardy, Andrews, Buffum, Beurré Bosc, Beurré Diel, Beurré d'Anjou, Duchess d'Angouleme, Merriam, Swan's Orange, Seckel, and other well-known sorts, appeared remarkably well. Of the winter fruit, the Lawrence, Glout Morceau, and Winter Nelis were very fine.

A few specimens of the new pear, Durandeau, or De Tongres, were exhibited and tested by your Committee. The annexed description we take from Hovey's Magazine: "This is another noble and beautiful pear. It was raised by M. Durandeau, at Tongres, in France, and was first put into the market in 1851. It is called sometimes by the name of its cultivator, and sometimes by that of the town where it was raised. The tree is moderately vigorous on the pear root, but is rather tender and weak on the quince. It forms a handsome pyramid, and bears young and abundantly. Fruit, very large, pyriform, much swollen out; skin, delicate, covered with a fine golden russet, tinged with red when fairly exposed to the sun; flesh, fine, buttery, very juicy, vinous, sprightly, and deliciously perfumed. It is a pear of the highest quality, which, with its size and beauty, must make it a general favorite. It ripens in October, and keeps some time."

New pears should be received with some caution, and, whether foreign or native sorts, should be well tested before they are recommended for general cultivation. A man must be very bold who will introduce a new pear for popular favor when there are so many varieties of such high merit. It is perfectly absurd to add one after another to the long list of pears, unless they are better in some respect than any other variety ripening at the same season, either in size, beauty,—which has much to do with the sale of the fruit,—productiveness, hardiness, quality, its long-keeping, or in some other quality surpassing everything now on the list. Every new fruit should undergo this test, and if it fails to come up to it, then refuse to admit it into good society. This should apply to all fruits.

Increased attention is being paid to the growing of pears for the market. Many new orchards have been set out in the vicinity of Boston within a year or two. A large portion of the trees so set will never yield much fruit, for the trees will not receive that care and attention which they demand, and must have, where success is attained. Few soils seem to be perfectly well adapted to the growing of this fruit, while in some localities it is next to impossible to raise either trees or fruit. The larger and fairer specimens, but perhaps not the best in flavor, are raised on what was once salt marsh, which has been filled up and prepared for trees. Dwarf pears

seem to flourish better on such soils than in any other locality. It is safe to say to any and all who are about setting a pear orchard—first, be sure you have a suitable soil; secondly, that it is well prepared by trenching or subsoiling; thirdly, that it is well enriched to begin with, and kept in such a condition year after year; fourthly, that you have good trees, with good roots, of good varieties, and then well set out. After all this is done, make up your mind to be content with a few pears for the first seven years, if the trees be standards; and even after they come into full bearing, that they will pay, take one year with another, only a fair profit on the investment. It is quite time that the public were made to understand that the money obtained from fruit sold is not clear profit. To those who cultivate for pleasure, or for other reasons than that of profit, these remarks will be of less value.

In bringing this report to a close, it should be remarked that every individual member of the Committee cannot be held responsible for the opinions expressed in it, for it must of necessity be prepared by some *one*, and that one will be likely to give his own peculiar views in such a report. In the award of premiums and gratuities, the Committee have endeavored to do justice to all parties, and if they have failed in any particular, it certainly was not intentional. As most men believe that what they raise is better than that grown by their neighbors, it is sometimes very difficult to give entire satisfaction to all parties. It has, however, been the earnest desire of the Committee to do their whole duty as they understand it.

JOSEPH S. CABOT,
JAMES F. C. HYDE,
WILLIAM A. HARRIS,
W. C. STRONG,
A. C. BOWDITCH,
E. A. STORY,
GUSTAVE EVERS,
} *Fruit Committee.*

PRIZES AWARDED FOR FRUITS DURING THE SEASON.

For the best and most interesting exhibitions of Fruits during the season, the Lowell plate, to Hovey & Co.,	$15 00
For the next best, to H. Vandine,	10 00
For the next best, to J. F. Allen,	7 00
Apples.—For the best twelve Summer apples, on or before the third Saturday of August, to Bowen Harrington, for Williams,	6 00
For the next best, to Thaddeus Clapp, for Sweet Bough,	4 00
For the next best, to G. B. Cordwell, for Early Harvest,	3 00
For the best twelve Autumn apples, on or before the third Saturday of November, to Thaddeus Clapp, for Washington,	6 00
For the next best, to James Eustis, for Gravenstein,	4 00
For the next best, to Bowen Harrington,	3 00
For the best twelve Winter apples, on or before the first Saturday in December, to Thaddeus Clapp, for Baldwin,	6 00
For the next best, to F. H. Corey, for Rhode Island Greening,	4 00
For the next best, to E. Brown, for Yellow Bellflower,	3 00
Apricots.—For the best twelve, on or before the third Saturday of August, not awarded,	
For the next best, not awarded,	
Blackberries.—For the best specimens, not less than two boxes, to James Nugent,	5 00
For the next best, to Galen Merriam,	4 00
For the next best, to J. W. Foster,	3 00
For the next best, not awarded.	
Cherries.—For the best specimens, not less than two boxes, to William Bacon,	4 00
For the next best, to G. B. Cordwell,	3 00
For the next best, to C. E. Grant,	2 00
Currants.—For the best specimens, not less than two boxes, to J. W. Foster, for Red Dutch,	3 00
For the next best, to James Nugent, for Red Dutch,	2 00
For the next best, to M. P. Wilder,	1 00
Figs.—For the best twelve specimens, to Josiah Newhall,	3 00
For the next best, to J. F. Allen,	2 00
Gooseberries.—For the best specimens, not less than two boxes, to James Mitchell,	3 00
For the next best, to A. D. Webber,	2 00
For the next best, to G. G. Hubbard,	1 00
Grapes.—For the best specimens, grown under glass, on or before the third Saturday in July, to Mrs. Durfee,	8 00
For the next best, to M. H. Simpson,	6 00
For the next best, to Oliver Bennett,	4 00

For the best specimens, grown under glass, subsequently to the third Saturday of July, to Oliver Bennett, . . $8 00
For the next best, to J. F. Allen, ... 6 00
For the next best, not awarded, ...
For the best specimens of Native Grapes, to C. E. Grant, for Isabella, ... 8 00
For the next best, to Kendall Bailey, for Isabella, . . 6 00
For the next best, to F. Dana, for Diana, . . . 5 00
For the next best, not awarded, ...
For the next best, not awarded, ...
Melons.—For the best Muskmelon, grown under glass, on or before the third Saturday in July, to . . .
For the best Muskmelon, open culture, on or before the third Saturday in September, to E. M. Richards, . . 2 00
For the best Watermelon, on or before the third Saturday in September, to Thomas Walsh, ... 2 00
Nectarines.—For the best twelve specimens, to J. F. Allen, . 3 00
Peaches.—For the best twelve specimens, grown under glass, on or before the third Saturday in July, to Oliver Bennett, 6 00
For the next best, to C. S. Holbrook, . . . 5 00
For the next best, to J. F. Allen, ... 4 00
For the next best, not awarded, ...
For the best twelve specimens, open culture, to Thaddeus Clapp, 5 00
For the next best, to George A. Mudge, . . . 4 00
For the next best, to R. W. Ames, . . . 3 00
For the next best, to G. R. Sampson, . . . 2 00
Pears.—For the best collection, not exhibited before, this year, the Society's plate, ... none.
For the next best, ... none.
For the best twelve specimens Summer pears, on or before the third Saturday in August, to P. R. L. Stone, for Bloodgood, 5 00
For the next best, to Hovey & Co., for Bloodgood, . . 3 00
For the next best, to H. Vandine, for Beurré Giffard, . 2 00
For the best twelve Autumn pears, on or before the third Saturday in November, to J. F. Allen, for Seckel, . . 6 00
For the next best, to H. Vandine, for Buffum, . . 4 00
For the next best, to P. J. Stone, for Van Mons Leon le Clerc, 3 00
For the next best, to Hovey & Co., for Moore's Pound, . 2 00
For the best twelve Winter pears, on or before the first Saturday in December, to A. J. Dean, for Beurré Diel, . 6 00
For the next best, to J. B. Loomis, for Lawrence, . . 5 00
For the next best, to William R. Austin, . . . 4 00
For the next best, to William R. Austin, . . . 3 00
Plums.—For the best specimens, not less than two boxes, to R. W. Ames, ... 4 00
For the next best, to H. Vandine, ... 3 00
For the next best, to F. Dana, for Jefferson, . . 2 00

QUINCES.—For the best twelve specimens, to Thomas Page, . $3 00
For the next best, to E. M. Richards, . . . 2 00
RASPBERRIES.—For the best specimens, not less than two boxes, to J. W. Foster, ... 4 00
For the next best, to William R. Austin, for Knevet's Giant, 3 00
For the next best, to William R. Austin, for Franconia, . 2 00
For the next best, to George Davenport, . . . 1 00
STRAWBERRIES.—For the best display, during the season, to Hovey & Co., ... 8 00
For the best collection, shown at one time, to Hovey & Co., . 6 00
For the best specimens, not less than two boxes, to J. W. Foster, for Brighton Pine, ... 5 00
For the next best, to W. H. Barnes, for Brighton Pine, . 4 00
For the next best, to T. Walsh, for Jenny Lind, . . 3 00
For the next best, to Isaac Fay, for Jenny Lind, . . 2 00

GRATUITIES.

To F. Dana, for Seedling pear No. 16, (Hovey,) Silver medal, and $20 00
" Thaddeus Clapp, for new pears, ... 3 00
" Samuel Walker, for new pear, ... 3 00
" Warren Heustis, for De Tongres pear, . . . 2 00
" G. A. Godbold, for De Tongres pear, . . . 1 00
" Hovey & Co., for new pears, ... 3 00
" W. A. Crafts, for Glout Morceau pear, . . . 1 00
" F. H. Corey, for collection of fruits, . . . 3 00
" G. L. Stearns, for peaches, ... 2 00
" Dr. Bemis, for collection of apples, . . . Silver medal.
" J. B. Moore, for Golden Russet apples, . . . 3 00
" Marshall P. Wilder, for fruits during the season, . . 3 00
" Joseph Breck, do. do., . . 3 00
" Bowen Harrington, do. do., . . 3 00
" J. W. Foster, do. do., . . 3 00
" Asa Clement, do. do., . . 3 00
" James Eustis, for apples, ... 5 00
" William Bacon, for pears, ... 3 00
" John A. Kenrick, for apples, ... 2 00
" W. C. Strong, for currants and grapes, . . . 2 00
" George B. Cutter, for grapes, ... 2 00
" J. W. Manning, for fruit during the season, . . . 2 00
" Oliver Bennett, do. do., . . . 2 00
" C. E. Grant, do. do., . . . 2 00
" Kendall Bailey, for grapes, ... 2 00
" James Munroe, for apples, ... 2 00
" E. A. Story, for apples, ... 2 00
" George Davenport, for grapes, ... 3 00
" Thomas Walsh, ... 1 00

PRIZES FOR FRUITS AWARDED DURING THE ANNUAL EXHIBITION.

For the best 12 Bartlett pears, the STANWOOD SILVER CUP, to Alexander Dickinson, valued at $25 00

APPLES.—For the best twenty varieties, of twelve specimens each, the Lyman Plate, to Thaddeus Clapp, . . . 20 00

For the next best, to A. D. Williams, . . . 15 00

For the next best, to Asa Clement, ... 12 00

For the best fifteen varieties, twelve speeimens each, to Hovey & Co., ... 12 00

For the next best, to J. W. Foster, . . . 10 00

For the next best, to Josiah Stickney, . . . 8 00

For the next best ten varieties, twelve specimens each, to John Gordon, ... 8 00

For the next best, to B. Bruce, ... 6 00

For the next best, to E. S. Rand, . . . 5 00

For the best five varieties, of twelve specimens each, to J. Gammell, ... 6 00

For the next best, to Thomas Walsh, . . . 5 00

For the next best, to Bowen Harrington, . . . 4 00

For the best dish of apples, twelve specimens of one variety, to Warren Heustis, ... 5 00

For the next best, to Thaddeus Clapp, . . . 4 00

For the next best, to Thomas Marsh, . . . 3 00

For the next best, to W. Bachelder, . . . 2 00

PEARS.—For the best twenty varieties, of twelve specimens each, to Hovey & Co., ... 25 00

For the next best, to William Bacon, . . . 20 00

For the next best, to John Gordon, . . . 16 00

For the best fifteen varieties, of twelve specimens each, to J. Eaton, ... 15 00

For the next best, to Hervey Davis, . . . 12 00

For the next best, to Wm. R. Austin, . . . 10 00

For the best ten varieties, of twelve specimens each, to Jesse Haley, ... 10 00

For the next best, to Francis Dana, . . . 8 00

For the next best, to W. H. Barnes, . . . 6 00

For the best five varieties, of twelve specimens each, to W. P. Butterfield, ... 6 00

For the next best, to S. W. Fowle, . . . 5 00

For the best dish of pears, twelve specimens of one variety, to A. D. Williams, for Seckel, ... 5 00

For the next best, to John Gordon, for Beurre Bosc, . 4 00

For the next best, to J. Eaton, for F. Beauty, . . 3 00

For the next best, to W. R. Austin, for E. Beurré, . . 2 00

PEACHES.—For the best collection of not less than eight varieties, to Thaddeus Clapp, ... $10 00
For the next best, to Francis Dana, . . . 6 00
For the best collection of not more than four varieties, to Joseph Breck, ... 5 00
For the next best, to Samuel Walker, . . . 4 00
PLUMS.—For the best collection of not more than four varieties, to William Bacon, ... 5 00
For the next best, to H. Vandine, ... 4 00
GRAPES, FOREIGN.—For the best five varieties, two bunches each, to E. S. Rand, ... 10 00
For the next best, to Joseph Breck, . . . 8 00
For the best two varieties, two bunches each, to C. E. Grant, . 5 00
For the next best, to G. G. Hubbard, ... 4 00
For the best collection, not less than six varieties, to Mrs. F. B. Durfee, ... 10 00
For the next best, to H. S. Mansfield, . . . 8 00
GRAPES, NATIVE.—For the best specimens, to George Davenport, 5 00
For the next best, to G. B. Cutter, ... 4 00
For the next best, to I. P. Clark, ... 3 00
For the next best, ... not awarded.

GRATUITIES.

To Hovey and Co., for collection of pears, . . . 10 00
To Marshall P. Wilder, do. do. . . . 10 00
To Samuel Walker, do. do. . . . 8 00
To Josiah Stickney, do. do. . . . 5 00
To Aaron D. Weld do. do. . . . 5 00
To Wm. H. Spooner, Jr., do. do. . . . 5 00
To N. R. Child, do. do. . . . 4 00
To W. T. Andrews, do. do. . . . 4 00
To J. F. Allen, George Newhall, Charles Newhall, J. S. Sleeper, J. B. Smith, H. Vandine, J. R. Poor, $3 each, . . 21 00
To N. White, J. B. Loomis, J. C. Chase, R. S. Frost, Augustus Parker, C. D. Swain, S. Downer, J. W. Merrill, John A. Kenrick, William Aiken, and E. A. Story, $2 each, . 22 00
To Isaac Fay, W. R. Sampson, R. Lamson, G. Gilbert, N. Harris, James Munroe, J. Parker, and Mrs. S. C. Cole, $1 each, ... 8 00
To G. G. Hubbard, for orchard-house fruit, and to Smith & Hanchett, Syracuse, N. Y., for collection of pears and apples, each, Silver medal.
PLUMS.—Joseph Breck, A. J. Dean, J. B. Loomis, John Mulley, C. Hill, Jr., $2 each, ... 10 00
To H. Homer, Francis Dana, R. W. Ames, A. R. Roberts, $1 each, ... 4 00
PEACHES.—J. F. Allen, Asa Clement, S. Sweetser, Wm. Paige, A. H. Ramsey, $2 each, ... 10 00

To E. Paige, S. Howard, G. E. Howard, G. E. Ridler, Charles Williams, Benj. Bruce, Mrs. S. Pratt, G. Stedman, J. B. Loomis, W. P. Lamson, N. Harris, T. J. Elliott, H. Winship, J. W. Merrill, $3 each, ...	42 00
Nectarines.—To G. W. Willis, $2. To W. Delano, $1. .	3 00
Grapes.—To A. Davenport, for Native Grapes; to J. Fiske Allen, for a display of greenhouse grapes, $2 each, . .	4 00
Apples.—For collections, to G. G. Hubbard, Joseph Breck, S. B. Blagge, George Newhall, E. M. Richards, Eben Wight, S. M. Weld and W. W. Wheildon, $3 each, . .	24 00
To J. A. Stetson, W. T. Andrews, James Munroe, and E. C. Sparhawk, $2 each, ...	8 00
To Samuel Walker, for Gravensteins, ...	1 00
To Isaac Fay, E. Spalding, Mrs. S. W. Cole, J. H. Chadwick, W. P. Baker, J. B. Judkins, Nathaniel White, J. W. Manning, Eliphalet Stone and E. Luke, $1 each, for collections, ...	10 00
To Seth W. Fowle, W. J. Breed, J. B. Moore, and Mrs. Lydia Dodge, $1 each, for single dish, ...	4 00
To E. A. Story, for dish of Orange Sweets, . . .	1 00

REPORT OF THE COMMITTEE ON VEGETABLES,

For the Year 1860.

BY DANIEL T. CURTIS, CHAIRMAN.

In conformity to the By-Laws of the Society, we offer our report for the past year. Your Committee feel gratified at the renewed interest manifested during the past season, as evinced by the healthy competition among contributors for the prizes in this department, and look forward with confidence to increased efforts in the future.

The kitchen garden is often regarded, by those who may be following larger and more complicated pursuits of life, as a spot hardly deserving notice; yet to the intelligent and reflecting mind, what place can be made more attractive? No land pays a higher rate of interest than a well-managed kitchen garden, and the quantity of vegetables it may be made to produce, under proper cultivation, is really astonishing. The eye, as well as the other senses, cannot fail to be pleased by a well-stocked vegetable garden; it not only contributes largely to good living, but also to healthy exercise and refinement.

The cultivation of vegetables for the markets of large cities is one of those branches of agricultural science that requires a very practical mind. Where do we find this better illustrated, than at the well-conducted market gardens in this vicinity,—the Williams', the French's, the Coolidge's, the Crosby's, the Stone's, the Rand's, the Stickney's, and others in the environs of Boston that have contributed so much to the interests of the Society, and we may truly say of the Commonwealth, during the past thirty years, by developing the science of agriculture?

During the season there have been but few new varieties offered for examination, and these may be left until another season for further trial. The varieties placed on the tables were a "Hybrid sweet corn," raised by A. D. Webber; the "Honolulu Nectarine squash," by Josiah Newhall; and "Perfected tomato," by George Newhall.

The "Victoria Marrow pea," grown by Bowen Harrington, and exhibited for the first time this season, is one that we judge worthy the attention of every cultivator of this delicious vegetable. As to flavor, we think it has no equal among the intermediate or late varieties. Mr. Harrington remarks that it is very productive, but not as early as the "Champion of England."

By referring to the premiums awarded, it will be seen that the "Early Daniel O'Rourke pea" is one of the earliest and most productive; a well-grown peck measure of them, even full, will weigh in the pods about seven and a half pounds, thus giving, perhaps, a standard weight to early varieties. During the season every variety placed on your tables has been in every respect of superior quality.

The cultivation of rhubarb is extensive, and the prominent varieties are the "Myatt's Linnæus" (early), and "Victoria" (late). The "Cahoon"

does not show any superiority for productiveness, and to the taste is more acid. It has an unattractive, dull-green stalk, and does not, in the opinion of your Committee, merit extended cultivation in this section of the country.

The variety exhibited by Messrs. Barnes & Washburn, called the "Early Prince Imperial," is, in all respects, the best flavored we have ever tested. It invariably turns red in cooking, which makes it preferable for the table as a sauce. The stalks are of medium size. We fully commend it for extensive cultivation, as particularly adapted to the wants of the family, if not to the wishes of the market gardener, to whom size and productiveness are more than flavor.

As an esculent, the cultivation of Sea kale is very limited, though, when well grown, it is considered one of the best, and, on good authority, one of the most valuable additions to the list of culinary vegetables. In our opinion it is one of the most delicious, for an early production; and we wish to see it oftener placed on our tables, and its cultivation for market receive the attention it deserves.

The Annual Exhibition must still be fresh in the minds of all who visited the Music Hall, where there has rarely been seen a more magnificent display. The varieties were many, and the greatest perfection was noticed among the root crops, that are now claiming so much attention in all parts of the country. Comparing this with other seasons, we doubt if the quantity and quality presented for examination have ever been exceeded. Taking this into consideration, with the zeal manifested by contributors, it may be considered one of the main features of the exhibition—for in this department all felt at home, and familiar with most of the specimens contributed. In the examination of fruits, there is much that attracts the eye by brilliant coloring and size of specimens, and the names of varieties and their qualities are so little studied and known, that they are little commented upon; but to the vegetable department all come with familiarity, and all delight to discuss the merits of potatoes, squashes, carrots, beets, melons, &c.

The collection of potatoes, exhibited by C. W. Gleason, received much attention. Among the seedlings, some, by form and texture, claimed our special notice, and from them we may expect additions of superior quality, especially as Mr. Gleason has given much time and careful attention to this department of agriculture.

Since the introduction of the "Hubbard squash," by James J. H. Gregory, it has been extensively cultivated in most of the States, and in every location has become a favorite. It is well known in our markets, receiving the highest praise from all that desire a fine squash for the table. We therefore recommend a special premium or gratuity to Mr. Gregory for this valuable introduction.

In taking leave of this subject, we wish to return our thanks to those who have contributed so largely to our mutual benefit during the past season, and to express the hope that the coming year will see the gardener's labor crowned with equal success. The occupation is a noble one, and in the highest degree worthy of the notice and the pursuit of the gentleman and the farmer. It becomes us not to neglect these treasures of the vege-

table kingdom, which a good Providence has appointed for our sustenance and enjoyment, and which he has been graciously pleased to place within the reach of every industrious and intelligent cultivator.

PREMIUMS AWARDED AT THE WEEKLY EXHIBITIONS.

Asparagus.—For the best, to J. B. Moore,	$4 00
For the next best, to J. Nugent,	3 00
Beets.—For the best, to Josiah Crosby, for Turnip Blood,	4 00
For the next best, to Abner Pierce, for Early Bassano,	3 00
For the next best, to Jonas Gammell, for Turnip Blood,	2 00
For the best winter, to James Nugent, for Long Blood,	4 00
Beans.—For the best Early Shelled, to James Nugent,	3 00
For the next best, to William Bacon,	2 00
For the best Large Lima, to Thomas Walsh,	3 00
Cabbages.—For the best, to G. W. Pierce, for Early Ox-heart,	3 00
For the next best, to Josiah Crosby, for Early Flat Dutch,	2 00
Carrots.—For the best, to Josiah Crosby, for Long Orange,	3 00
For the next best, to G. W. Pierce, for Early Short Scarlet,	2 00
Cauliflower.—For the best, to G. R. Sampson, for Half Early Paris,	5 00
Celery.—For the best, to Josiah Crosby,	3 00
Corn.—For the best, to Josiah Crosby, for Improved Sweet,	4 00
For the next best, to Abner Pierce, for Improved Sweet,	3 00
For the next best, to A. D. Webber, for Webber's New Hybrid,	2 00
Cucumbers.—For the best under glass (three varieties), to M. P. Wilder, for Carter's Champion, Walker's Fine Long, and Manchester Prize,	4 00
For the next best, to C. S. Holbrook, for Improved Scion-house,	3 00
For the best open culture, to G. W. Pierce,	3 00
For the next best, to Josiah Crosby,	2 00
Egg Plants.—For the best, to Jonathan French, for Long and Round Purple,	3 00
Lettuce.—For the best, to Augustus Parker, for Cabbage,	3 00
For the next best, to D. and Geo. F. Stone, for varieties,	2 00
Onions.—For the best, to G. W. Pierce,	3 00
For the next best, to Josiah Crosby,	2 00
Parsnips.—For the best, to Abner Pierce, for Long Dutch,	3 00
Potatoes.—For the best, to Josiah Crosby, for Dikeman,	4 00
For the next best, to Jonas Gammell, for Chenango,	3 00
For the next best, to Augustus Parker, Nichol's Early,	2 00
Peas.—For the best, to James Nugent, for Daniel O'Rourke, level peck, 7 pounds 10 ounces,	4 00
For the next best, to Thomas Walsh, for do., level peck, 7 pounds 8 ounces,	3 00

For the next best, to Geo. R. Sampson, for do., level peck, 6 pounds 8 ounces, ... $2 00
For the best late, to Bowen Harrington, for Victoria Marrow, . 3 00
Rhubarb.—For the best, to G. W. Pierce, for 12 stalks Victoria, 22 pounds, ... 3 00
For the next best, to Bowen Harrington, for 12 stalks Victoria, 21½ pounds, ... 2 00
Squashes.—For the best, to Abner Pierce, for Summer Scollop, 3 00
For the next best, to Bowen Harrington, for Summer Warted, 2 00
Tomatoes.—For the best, to G. L. Stearns, for Smooth Red, . 4 00
For the next best, to Thomas Walsh, for Smooth Red, . 3 00
For the next best, to G. W. Pierce, for Smooth Red, . 2 00
Turnips.—For the best, to Jonas Gammell, for Purple-top Flat, . 3 00
For the next best, to Abner Pierce, for Purple-top Flat, . 2 00

GRATUITIES PREVIOUS TO OPENING THE HALL.

To E. G. Kelley, for forced rhubarb and Olive radishes, . . 2 00
To G. R. Sampson, for forced tomatoes, ... 1 00
To J. B. Moore, for asparagus, ... 1 00
To R. W. Turner, for forced cucumbers, ... 2 00
To G. W. Pierce, for lettuce, ... 1 00
To A. Hatch, for asparagus, ... 1 00

WEEKLY GRATUITIES.

To Samuel Sweetser, for early rhubarb, ... 2 00
To G. R. Sampson, for tomato plant in fruit, . . . 2 00
To Bowen Harrington, for varieties, ... 3 00
To James Nugent, for Cahoon rhubarb, ... 1 00
To G. R. Sampson, for the same, ... 1 00
To Galen Merriam, for the same, ... 1 00
To W. H. Barnes, for the same, ... 1 00
To G. W. Pierce, for Marrow peas, ... 1 00
To F. T. Bush, for Imperial Coss lettuce, . . . 1 00
To Augustus Parker, for display of potatoes, in bags, . . 2 00
To Samuel Phipps, for the same, ... 2 00
To I. P. Rand, for tomatoes and cucumbers, . . . 2 00
To Samuel Eldridge, for onions, ... 1 00
To E. A. Story, for Early Manley potatoes, . . . 1 00
To J. McTear, for Brussells sprouts, ... 1 00
To Anthony Hatch, for late cauliflowers, ... 2 00
To Josiah Newhall, for six Honolulu Nectarine squashes (new), . 2 00

SPECIAL PREMIUM, IN PLATE.

To James J. H. Gregory, for the introduction of the Hubbard squash, ... 25 00

PREMIUMS AWARDED AT THE ANNUAL EXHIBITION.

BEETS.—For the best, to G. W. Pierce, for Turnip Blood, . $4 00
For the next best, to Josiah Grosby, for the same, . . 3 00
For the next best, to S. A. Merrill, for Long Blood, . . 2 00
CARROTS.—For the best, to Josiah Crosby, for Long Orange, . 4 00
For the next best, to Augustus Parker, for the same, . 3 00
For the next best, to G. W. Pierce, for the same, . . 2 00
CORN.—For the best, to A. Bowditch, for two varieties—Sweet Burr's Improved and Early Yellow, . . . 4 00
For the next best, to J. B. Moore, for the same, . . 3 00
For the next best, to S. A. Merrill, for the same, . . 2 00
POTATOES.—For the best, to E. A. Story, for varieties, . . 5 00
For the next best, to S. A. Merrill, for the same, . . 4 00
For the next best, to J. B. Moore, for the same, . . 3 00
For the next best, to Augustus Parker, for the same, . 2 00
PARSNIPS.—For the best, to Josiah Crosby, . . . 4 00
For the next best, to Abner Pierce, ... 3 00
For the next best, to Augustus Parker, . . . 2 00
SQUASHES.—For the best, to I. P. Rand, for Hubbard and Marrow, 5 00
For the next best, to Josiah Stickney, for the same, . . 4 00
For the next best, to Josiah Crosby, for the same, . . 3 00
For the next best, to D. & Geo. F. Stone, for the same, . 2 00
TURNIPS.—For the best, to Abner Pierce, for Purple-top Flat, . 4 00
For the next best, to G. R. Sampson, for the same, . . 3 00
For the next best, to D. & Geo. F. Stone, for the same, . 2 00
TOMATOES.—For the best, to W. T. Andrews, . . . 3 00
For the next best, to S. A. Merrill, ... 2 00
CABBAGES.—For the best Drumhead, to Anthony Hatch, . 4 00
For the next best, to S. A. Merrill, ... 4 00
For the next best, to Abner Pierce, ... 2 00
For the best single specimen Drumhead, to S. W. Hathaway, 41 pounds, ... 2 00
MELONS.—For the best, to E. M. Richards, for Christiana, . 4 00
For the next best, to Josiah Crosby, for Greenflesh, . . 3 00
For the next best, to Josiah Stickney, for the same, . . 2 00
WATER MELONS.—For the best, to Thomas Walsh, for Mountain Sweet, ... 4 00
No other awarded.
MAMMOTH SQUASH.—For the best, to Anthony Hatch, weight 138 pounds, ... Silver medal.
For the next best, to W. H. Barnes, weight 117 pounds, . 3 00

GRATUITIES.

To G. R. Sampson, for fine collection, ... 10 00
To C. W. Gleason, for collection of fifty-six varieties potatoes, . 10 00

To D. & Geo. F. Stone, for collection, ... $8 00
To S. A. Merrill, for the same, ... 6 00
To J. B. Moore, for the same, ... 5 00
To Abner Pierce, for the same, ... 3 00
To Thomas Walsh, for the same, ... 3 00
To Henry J. Hill & Co., for Hubbard and Marrow squashes, . 3 00
To James Cartwright, for three mammoth squashes, . . 3 00
To Augustus Parker, for collection, ... 3 00
To G. W. Pierce, for curled endive (salad), . . . 2 00
To George B. Cordwell, for collection, ... 2 00
To John A. Kendrick, for onions, ... 2 00
To George Newhall, for Perfected tomatoes (new), . . 2 00
To Josiah Stickney, for Yellow-flesh musk melons, . . 2 00
To John Wright, for collection, ... 2 00
To Jonas Gammell, for squashes and corn, . . . 2 00
To Hovey & Co., for the same, ... 2 00
To David Lane, for Purple egg plants, ... 2 00
To S. B. Blagg, for squashes, ... 2 00
To Bowen Harrington, for collection, ... 2 00
To James Nugent, for beets, ... 1 00
To Anthony Hatch, for the same, ... 1 00
To S. W. Hathaway, for cabbages, ... 1 00
To William T. Andrews, for squashes, ... 1 00
To A. D. Weld, for the same, ... 1 00
To J. W. Foster, for the same, ... 1 00
To Eliphalet Stone, for corn, ... 1 00

SILVER MEDALS.

To Samuel Kneeland, 3d, aged 9, for display of potatoes, squashes, and corn, raised by him in Littleton, Mass.
To Howes Nourse, Salem, for collection of pulverized herbs.

PUBLICATIONS.

To James J. H. Gregory, Hovey's Magazine, for Hubbard squashes.
To D. Faulkner, Malden, Gardeners' Magazine, for Blood beets.
To I. P. Clark, Longwood, the same, for tomatoes.
To William Butterfield, Cambridgeport, the same, for Jackson potatoes.

REPORT OF THE COMMITTEE ON THE LIBRARY,

For the Year ending Dec. 31, 1860.

BY EDWARD S. RAND, JR., CHAIRMAN.

The Library of a Society, whose objects and aims are in any degree the pursuit and cultivation of any of the natural sciences, is a great and important element of usefulness. The condition and prosperity of such a society may be, in a greater or less degree, dependent upon the state of its library; but its usefulness to its members, and to the public, is far more intimately connected with the class of books rendered accessible to them, and with the facilities afforded for obtaining that information which, not being derivable from experience, they can only gain by consulting the labors of others, either pioneers or skilful laborers in the field in which they would work.

To a scientific man a well-selected library is indispensable; the store of knowledge gained by experience, though perhaps the most useful, is necessarily but small, while that gleaned from the writings of others spreads over a larger ground, is much more varied, and often available at once for our own use.

It is the duty of every society to provide a library for the use of its members, and, as far as its means permit, to keep that library so stocked with books that a reference to it may at once furnish the latest, best, and most reliable information.

To fulfil this duty the Library of our Society was founded many years ago; and the standard works on horticulture, agriculture, floriculture, and pomology, as well as on landscape gardening and other kindred subjects, were procured, many at great expense, and at a period when the means of the Society were very limited, to form a nucleus for a library.

Thus far it was well—a beginning was made, and had exertions been continued to increase our Library, it would now have held most honorable rank as one of the finest collections of horticultural books in existence.

But, for some unknown reason, the interest began to flag at an early day, and but little was done to increase the Library, or extend its sphere of usefulness.

This apathy, on an all-important subject, is more incomprehensible, as, during all these years, our Society has been steadily gaining in wealth and position, attaining the rank, which it well holds, of the wealthiest Horticultural Society in the country.

It would be unfair to leave the impression that since that first beginning we have made no progress. On the contrary, many valuable books have from year to year been procured, and the Illustrated Periodicals have been obtained, and substantially bound. All we would say is, that the condition of the Library has not kept pace with the improved position and increased wealth of the Society.

One circumstance which has done much to cast the Library into the shade, and impair its usefulness, was the condition of the Library room.

A dark, back room, fronting on an obscure, ill-lighted court, where often, at noon day, it was necessary to light the gas to read ordinary print, was all the place for the Library of the Society.

No wonder the members felt indisposed to procure expensive books, or to make donations, when they must be buried in darkness, and often exposed to injury from mould and damp. Many times had efforts been made, of late years, for some change; but a fondness for that old room lingered in the hearts of many of our oldest and most respected members, so that, while the Hall was sufficient to accommodate our Exhibitions, there was an unwillingness to press the proposition for a change.

But the time at last came when the Hall was too small for our Weekly Shows. This was first evident during the Rose Show in June, 1858, when bushels of flowers were taken away, because there was no room to place stands for their reception. During the succeeding eighteen months this occurred again and again, till it was evident to all a change was necessary, and, without opposition, Committees were appointed to dispose of our old Hall, and to procure better accommodations for the Society. A sale of the Society's property was most advantageously made, and received the sanction of the Society, with but one dissenting vote.

Our present beautiful and convenient rooms were procured, when it became evident to all that our Library was not in a state befitting the standing and position of the Society.

At an early day in January last a meeting of the Library Committee was held "to examine into the state of the Library, and to ascertain what was necessary to improve its condition, and to increase its usefulness."

This meeting was called at an early hour, and continued until late at night. The books were all taken from the shelves, re-arranged, a record of all missing volumes taken, and some insight gained into the condition of the Library.

Regular meetings of the Library Committee were held, which were fully attended, until the time of the Society's removal to the new Hall, when the books were arranged in neat and convenient cases, where they are an ornament to the Library-room, and show that our Society is by no means insensible to this most important means for the improvement and instruction of its members.

At the first meeting of the Committee it was decided to spend a portion of the Library appropriation in the establishment and maintenance of a Reading Room for the use of members of the Society.

A circular was accordingly sent to the editor of every horticultural or agricultural paper or periodical, requesting him to forward to a given address a copy of his publication, with terms of subscription.

Answers were very generally received, and from the mass of matter thus accumulated your Committee selected those papers and periodicals which seemed most ably conducted, and best suited to the wants of the Society.

The periodicals and papers thus subscribed for, and which have been in the Reading Room of the Society during the past year, are the following:—

The Maine Farmer.
The New Hampshire Journal of Agriculture.
The New England Farmer.
The Magazine of Horticulture.
The Homestead.
The Genesee Farmer.
The American Agriculturist.
The Horticulturist.
The Working Farmer.
Moore's Rural New Yorker.
The Country Gentleman.
The American Stock Journal.
The New Jersey Farmer.
The Gardeners' Monthly.
The Farmer and Gardener.
The American Farmer.
The Rural Register.
The Virginia Farm Journal.
The Farmers' Journal.
The North Carolina Planter.
The Farmer and Planter.
The Southern Field and Fireside.
The American Cotton Planter.
The Southern Rural Gentleman.
The Ohio Cultivator.
The Ohio Farmer.
The Ohio Valley Farmer.
The Kentucky Farmer.
The Southern Homestead.
The Indiana Farmer.
The Prairie Farmer.
The Illinois Farmer.
The Farmers' Advocate.
The Northwestern Farmer.
The Valley Farmer.
The Michigan Farmer.
The Northwestern Cultivator.
The Nebraska Farmer.
The California Culturist.
The Oregon Farmer.
The Farmers' Journal.
The Canadian Agriculturist.
The American Journal of Science and Arts.
The Southern Cultivator.

These, as will be seen, comprise publications from all parts of the United States and Canadas. Some of them have not been received regularly; these will probably be discontinued, another year, as well as some which are but little called for by the members; and others, not in the above list, may be procured should it be deemed advisable. It will be the aim of the Committee to supply the Reading Room with every well-conducted and useful horticultural or agricultural periodical, and they cordially invite the assistance of the members to aid them in procuring any for which they do not already subscribe.

Your Committee have experienced great difficulty in ascertaining what foreign periodicals were most useful for general reading, and some of those for which they have subscribed have not been regularly received; but they hope for improvement in this respect as their arrangements become more perfected.

The following is a list of the foreign periodicals which have been supplied to the Reading Room during the last year:—

Revue Horticole.
Illustration Horticole.
Curtis's Botanical Magazine.
The Florist.
The Horticultural Cabinet.
The Cottage Gardener.
The Gardeners' Chronicle.
The Farmers' Magazine.
The Journal of the Royal Agricultural Society of England.
Transactions of the Highland and Agricultural Society of Scotland.
Journal of the Bath and West of England Agricultural Society.
Flore de Serres.
The Floral Magazine.
Pescatore's Manual of Orchidaceous Plants, and the Continuation by Linden.

Your Committee also found that there was no means of marking the pamphlets and papers of the Society in the Reading Room; they therefore caused a stamp to be procured, on which the name of the Society, with the words, "Not to be taken from the room," was engraved. Each periodical, as soon as received, is thus stamped, so that the *accidents* of missing periodicals have been of less frequent occurrence.

A book was also procured, in which the names of those taking books from the Library are registered, with the date, and a space for the signature of the member, and the date of return. Thus a receipt is given by each member, on his taking a book from the Library, whereby the possibility of its loss is very greatly lessened.

Your Committee, however, regret to say that there were, when they took charge of the Library, several very valuable works missing, which, though using every endeavor, they have failed to trace. They are the following:

Audubon's Birds, 8vo. edition, 2d vol.
Illustration Horticole, 2d vol.
Anderson's Introduction to the Practice of Gardening, 2 vols.
Bigelow's Plants of Boston, 1 vol.
Bryant's Floral Dictionary, 1 vol.
Downing's Landscape Gardening, 1 vol.
Gilpin's Landscape Gardening, 1 vol.
American Orchardist, 1 vol.
Encyclopædia of Gardening.
McIntosh's Greenhouse, 1 vol.
Nicol's Practical Planter, 1 vol.
Phillips' Pomonium Britannicum, 1 vol.
Phillips' Silva Florifera, vols. 1 and 2.
Jardins du Roi du Prusse.
Bulletin de la Societé de Horticulture de Rouen.
Soyer's Treatise on Cactus and Dahlia.
Smith's Catalogue of Phænogamous Plants in South Kent.
Saunders' Culture of the Vine.
Ecole Centrale des Arts et Manufactures, by Vertismenil, 2 vols.

And most earnestly would we urge members to examine their libraries and book-shelves, to see if any of the above have not ignorantly been retained, as thereby much inconvenience or serious loss to the Society may be prevented.

The volumes, of themselves, are of little value, but, as portions of sets, are invaluable, as many are now out of print, and cannot be procured at any price.

Donations of horticultural or agricultural works would also be thankfully received, and acknowledged as provided in the laws relating to the Library.

It is impossible for us all at once to place our Library in a position corresponding with our condition, but, by constant and untiring efforts, much may be done each year to attain this end.

During the past year two most valuable and rare works have been added to the Library by the Society.

At the regular May meeting of the Society, Hon. Marshall P. Wilder, in a few words, called the attention of the Society to the services rendered to Natural History by James D. Dana, of New Haven, and, on motion, it was voted—That the Library Committee be specially authorized to purchase his works for the Society, at a cost of sixty dollars, the same to be appropriated and paid for out of the treasury, as follows:

Synopsis of the Report on Zoophytes, 180 pp., 8vo.
Atlas of Zoophites, containing sixty-one colored plates.
Structure and Classification of Zoophites, 128 pp., 4to.
Report on Crustacea, 2 vols. of text, 1600 pp., 4to.
Folio vol. of 96 Plates, partly colored.

At the regular October meeting of the Society, on motion of Eben Wight, it was voted—That the Library Committee be specially authorized to purchase, and the Treasurer to pay for, at an expense of $25, Histoire

Naturelle, Agricole et Economique Du Mais, par Matthieu Bonafous, Paris, 1836.

This beautifully illustrated and very valuable work is of the utmost rarity, and this is probably the only copy in the country. Both of these splendid works have been substantially bound, and are in readiness for inspection, though, by their size and value, they are, by law, not allowed to be taken from the Library room.

The following works have been added to the Library from the Library Fund; many of them are of great value and are splendidly illustrated:

Bigelow's History of Mount Auburn.
Westwood's Arcana Entomologica, 2 vols.
Curtis's Farm Insects.
Perennial Plants, by Mrs. Loudon, 1 vol.
Ornamental Greenhouse Plants, by Mrs. Loudon, 1 vol.
Our Farm of Four Acres, 1 vol.
Morton's Handbook of Dairy Farming.
Downing's Fruit and Fruit Trees of America, last edition.
Pescatore's Orchidaceous Plants.
New American Encyclopædia, vols. 7, 8, 9 and 10.
Patent Office Report, 1859.
French's Farm Drainage.
Chorlton's Grape Grower's Guide.
Field's Pear Culture.
Cole's Fruit Book.
Dixon's Domestic Poultry.
Flint's Milch Cows and Dairy Farming.
Jardin Frutier, Nos. 23 to 36.
Journal of Royal Agricultural Society of England, 20 8vo. volumes.
Journal of the Highland and Agricultural Society of Scotland, 21 8vo. volumes.
Also, Prize Essays of same Society, 16 8vo. volumes. All these are very rare in complete sets and very valuable.
Hooker's Exotic Plants, 3 vols. 8vo. Very fine plates.
Scientific Farming Made Easy.
The Manse Garden.
Sweet's Flora Australasica. A very beautiful and rare work.
Hooker's Flora Boreali Americana, 2 vols. 4to., finely illustrated.
Burnett's Ornamental and Useful Plants, 2 vols. 4to., finely illustrated.
Lindley's Introduction to Botany, 2 vols. 8vo.
Lindley's Ladies' Botany, 2 vols. 8vo.
Pursh's Flora of North America, 2 vols. 8vo.
Don's Hortus Cantabrigiensis, 1 vol. 8vo.
Smith's British Flora, 4 vols. 8vo.
Moore's Nature Printed Ferns, 2 vols. 8vo. Elegantly illustrated.
Schliden's Principles of Botany, 1 vol. 8vo.
Doyle's Cyclopædia of Husbandry, 1 vol. 8vo.

The Committee find several sets of books incomplete and have been un-

able to obtain the numbers. Should any of the members have the missing numbers they would be gratefully received as a donation, or purchased at a liberal price.

They are as follows:

Edwards' Botanical Register.
Album Pomologie, 1 and 2 vols.
Loudon's Gardeners' Magazine, from 1835 to 1844 inclusive.
Curtis's Botanical Magazine, from vol. 51 to vol. 8, last series, that is, the whole second series.
Cottage Gardener, vol. 15.

The whole number of volumes at present in the Library is about nine hundred and twenty-five; of these,

Twenty-five are folio.
One hundred are quarto.
Seven hundred are octavo.
One hundred are duodecimo.

The whole number of pamphlets and papers is not far from two thousand.

In conclusion, your Committee cannot but be well pleased with the improved condition of the Library; a beginning has been made which may result in much in the future, and another year will show a vast improvement.

It is with the deepest satisfaction they find the Society have so appreciated their labors as to honor them with a reëlection, and they trust, with the coöperation of the other officers and members of the Society, to make the Library and Reading Room a potent means of usefulness and improvement.

Your Committee would respectfully ask for an appropriation of five hundred dollars for the increase of the Library for the year 1861, and also that the Society assume the expense necessary in binding the various magazines and periodicals, amounting in the aggregate to about fifty dollars per annum.

Edward S. Rand, Jr.,
William A. Harris,
J. Otis Williams,
W. C. Strong,
R. McCleary Copeland. } *Committee.*

In this connection your Committee must accord the highest praise to Mr. R. McCleary Copeland, who has held the position of Librarian for more than seventeen years. It is wholly owing to his care, diligence, and faithful watchfulness, that the Library has been so well preserved under so many disadvantageous circumstances.

It is not saying too much to assert, that but for his care and attention our most valuable works would have been very much injured if not wholly destroyed, by the damp in our old library room. Your Committee feel that Mr. Copeland's long and faithful services demand some token of the Society's appreciation, and they respectfully suggest the appointment of a Committee to procure, in the name of the Society, a suitable testimonial of its appreciation of the value of his services in their behalf.

Edward S. Rand, Jr.,
Wm. A. Harris,
J. Otis Williams,
W. C. Strong,
} *Committee on the Library.*

REPORT OF THE FINANCE COMMITTEE.

BY JOSIAH STICKNEY, CHAIRMAN.

Receipts for 1860.

By cash, balance brought forward from last year,			$2,514 14
" Principal, from Parker, balance over and above mortgage note,			9,317 12
" Income, Dividends and interest,	$3,220 67		
" " Rents,	1,589 58		
" " Receipts from Mount Auburn,	6,164 95		
" " Assessments ($205 from last year),	1.172 50		
" " Miscellaneous receipts,	252 75		
" Not income, Receipts from Annual Exhibition,	1,600 00		
		14,000	45
		$25,831	71

Payments for 1860.

To cash paid Mount Auburn, in full, principal and interest,		$6,496	90
" " Premiums and gratuities,	$2,124 00		
" " Salaries,	650 00		
" " Printing, binding, and advertising,	558 00		
" " Expenses Annual Exhibition,	1,718 54		
" " Painting, papering, plumbing, whitening, &c., new quarters,	822 00		
" " Carpeting and furnishing same,	958 00		
" " Cancelling leases on School Street,	2,225 00		
" " H. Munroe, bills job work and repairs to roof of old building,	227 93		
" " Rent, two quarters,	775 00		
" " Special awards, mechanics and miscellaneous bills,	1,709 76		
		11,768	23
Investment—To cash paid 65 shares Fitchburg R. R., cost,		6,625	75
Cash in the treasury, December 31, 1860,		940	83
		$25,831	71

Property of the Society.

Permanent Funds,	$ 4,000 00
Lyman Fund,	10,000 00
20 shares Portland and Saco Railroad,	2,000 00
16 shares Boston and Maine Railroad,	1,600 00
This year—65 shares Fitchburg Railroad,	6,500 00
" Parker's note, secured by mortgage,	60,000 00
" Library, $2,000; Furniture and glass, $2,500,	4,500 00
Cash on hand December 31, 1860,	940 83
	$89,540 83

NOTE.—The Society having paid to Mount Auburn $6,496 90, in full, owe now no debt, nothing but the prizes and bills incident to each new year, and the amount voted towards the expenses of waterworks at Mount Auburn.

It will be seen it has cost the Society over $4,000 to cancel leases and prepare new quarters, which has added to the expenses this year, and will not occur again.

ANALYSIS OF CAHOON'S RHUBARB WINE.

BY PROF. E. N. HORSFORD.

The wine has the hue of pale brown sherry, and a bouquet and taste which several connoisseurs of wine, to whom it has been submitted, pronounce to be peculiarities of the same wine. Some have perceived also a resemblance to Teneriffe. It is dry, slightly acid, and slightly astringent. It is clear, and free from sediment.

The quantity received, being a little less than a tenth of an imperial gallon, made the determination of some of the ingredients difficult, and of others quite impossible.

Qualitative analysis showed the wine to contain *alcohol*, *sugar*, *gum*, *slight traces of volatile essential oil*, *coloring matter*, *tannin* (?), *free organic acid*, *organic acid combined with potassa* and traces of other inorganic substances, but *no oxalic acid.*

Quantitative analysis gave the following results:—

Specific gravity, - - - 0.99837

Alcohol.—The wine was subjected to distillation, and the total alcohol and most of the water separated from the gum, sugar, and other organic and inorganic matters, and its specific gravity determined, as in the case of the wine, by weight; and the alcohol calculated from this weight.

The result gave of alcohol, by weight, 13.15 per cent.

Corresponding with, by volume, 16.56 " "

Sugar.—The sugar was determined by the method of the reduction of oxide of copper, and gave in three analyses,

1.80
1.86 } average - - - 1.80 per cent.
1.74

Acid.—The acid was determined by neutralizing, with a graduated solution of soda, a given volume of wine. The soda, calculated as anhydrous, neutralized by 100 cubic centimetres of wine, was 0.1530 grms.

This weight of soda would neutralize .2961 grms. of acetic acid, or
.3306 " of malic acid, or
.2106 " of citric acid, or
.3701 " of tartaric acid.

Acetic acid may have been present as a product of fermentation; malic and citric acids are known to be present in the juice of rhubarb, and tartaric acid is the form in which the acid of acid wines is usually expressed. It is proper to add that slow concentration of the wine, to see if any bitartrate of potassa (cream tartar) might crystallize out, gave no indication of the presence of this salt. Examination for oxalic acid proved it to be wanting.

The taste suggested the presence of tannin, but the wine at command was too small in quantity to permit the satisfactory determination of this point.

The *gummy residue*, remaining after the distillation of the alcohol and water, on evaporation to dryness at 212° Fah., contained

In 100 cubic centimetres,				4.8126 grms.
Of this, on ignition, there remained of inorganic matters,				.2742 "
Of this residue, the carbonate of potassa determined with bichloride of platinum, was				.2026 "
Which, estimated as potassa, gave				.1380 "
Leaving a balance of silica and traces of other bodies, but no soda,				.1716 "
Deducting from the residue from distillation the inorganic matter, sugar and acid, and assuming the acid present to be malic acid, and all the potassa to be combined with it, there will remain,				
Sugar,	1.8000	Total residue,		4.8126 "
Free malic acid,	.3306			
Malate of potassa,	.3347			
Inorganic residue,	.0716			
	2.5369			2.5369 "
Of gum, coloring matter, tannin (?), and other undetermined organic substances,				2.2757 "

Placing these results together, we have,

Specific gravity,	.99837
Composition in one hundred parts—	
Alcohol by weight, 13.15,	13.15
Alcohol by volume, 16.56.	
Sugar,	1.80
Free acid, assumed to be malic,	.33
Potassa salt, assumed to be neutral malate of potassa,	.33
Gum, coloring matter, and other organic matter,	2.28
Inorganic residue,	.07
Water,	82.04
	100.00

The analyses of several of the better known wines and liquors are subjoined for comparison:—

NAME.	Year	Specific Gravity	Per cent. of Alcohol by volume	Per cent of Alcohol by weight.	Per cent. of Acid as tartaric acid	Per cent. of Sugar.	Per cent. of Residue at 212°.	Per cent of Ash.
Cahoon's Rhubarb wine	1859	0.9983	16.56	13.15	1.05	1.800	4.48	0.071
RHINE WINES.								
Marcobrunn	1822	0.9963	12 20	9.76	1.28	0.243	2 39	0.194
Rudesheim	1848	0.9963	11.40	9.22	1.65	0.425	2.45	0.179
Steinberg	1846	0 9955	11.60	9.38	1.31	0.352	2.06	0.152
Hockheim.....	1846	0.9963	11 50	9.30	1.19	0.437	1.64	0.130
Johannesberg....	1842	0.9917	10 00	8.10	1.64	0.416	2.06	0.120
Assmannshausen .	1842	0.9957	11.20	9.06	1.40	0.342	2.51	0 227
Sherries	....	0.9791—0.9770	..	15.4—24.7	4.71— 6.89	0.83—3.74	..	..
Madeiras.....	....	0.9781—0.9733	..	19. —19.7	6.53— 8 71	1.25—4.18	..	..
Port wines	....	0.9761—0.9720	..	20.7—24 7	5.08— 8.59	3.32—6.87	..	..
Clarets	....	0 9799—0.9741	..	9.1—11.1	6.17— 8.34	0.	..	..
Burgundies.....	....	0 9854—0.9845	..	10.1—13.2	6.17— 9.30	0.	..	..
Champagnes	....	0.9860—0.9845	..	14.1—14.8	5.80— 7 62	1.25—5.82	..	..
Moselles	....	.....	..	8.7— 9.4	6.89—10 89	..	..	..
Malmsey.....	....	0.9809	..	15.91	..	11.64—13.72	..	..
Tokay.....	....	0.9876	..	9 15	..	15.39	..	..
Muscat	....	0.9791	..	17.	..	..	..	..
Brandy	....	.....	..	50.4—53.8	..	0.36—1.44	..	..
Rum	....	.....	..	72.0—77.1	..	0.36—0.72	..	..
Holland	....	.....	..	47.7	..	..	..	..
Scotch whiskey..	....	.....	..	50.2	..	..	..	..
Irish whiskey....	....	.....	..	49 9	..	..	..	..
Currant wine	....	0.9760	..	19 03	..	..	..	..
Elderberry do....	....	0.9870	..	9.14	..	..	..	..
Gooseberry do....	....	0.9850	..	10.96	..	..	..	..
Cider	....	.....	..	2 0— 9.0	..	..	..	..
Perry.....	....	.....	..	6.0— 9.0	..	..	..	..
Bitter ale	....	.....	..	6.6	..	2.16—3.99	..	..
Porter	....	.....	..	6.5	..	4 32—5.12	..	..
Stout	....	.....	..	6 5	..	3.26—5.44	..	..

I cannot conclude this statement of the results of analysis without remarking that I have availed myself of the skill of one of my pupils, Mr. Langley, of Milton, who has made the examination of liquors a special study during his connection with the Laboratory.

All of which is respectfully submitted.

E. N. Horsford,
Chemist to the Mass. Hort. Society.

Cambridge, May 18, 1860.

ZOOLOGICAL REPORT.

BY PROF. J. W. P. JENKS.

Mr. President:—

Though I have nothing specific to offer in connection with the department confided particularly to my care, yet I am unwilling that it should be entirely ignored in the published "Transactions" of the past year, and therefore beg leave to submit the following Report.

It will be remembered that one year ago I suggested the importance to the "tiller of the soil," of determining the alimentary regimen of each species of birds, and proposed to enter upon the investigation as a life-work, under the auspices of our Society. A committee having been promptly appointed to consider my suggestions in detail, and a favorable report from them adopted by the Society, with a generous appropriation to meet the incidental expenses of the investigation, I employed the year in preliminary work; such as the printing of Registering Schedules, and the circulation of the same among naturalists in different parts of the country, in order to enlist their coöperation if possible, and the devising of the surest and speediest methods for procuring specimens for examination. To head the *schedules* with the Number, Order, Family, Genus, and Species of several hundred birds has been no small task, as well as the effort, by correspondence, to explain to others the nature of the work proposed, by whose simultaneous researches I might correct or confirm my own. These preliminaries attended to, I hope to pursue the investigation during the ensuing summer with definite results in reference to, at least, some species.

And here I may be permitted to correct a very general impression in reference to my Report upon the Food of the Robin. The public press, in various parts of the country, have insisted upon it that I assert positively to the great *utility* of the robin, with no habits of *inutility* to either the horticulturist or agriculturist; whereas my report, as published in your "Journal" of March, 1859, *asserts* nothing upon either of those points, but simply presents the *facts* of the alimentary regimen of the bird for one year, and leaves every one to draw their own inference. It is somewhat gratifying to know that that inference has been drawn almost universally in favor of the bird, but I am not responsible for it beyond presenting the facts in the case.

In respect to this entire subject of the alimentary regimen of birds, it is plain that it is commending itself to the attention of naturalists in America as well as in Europe, as evinced by the fact that some of the States have of late enacted more stringent laws for the protection of the nonedible birds. To this result, I am authorized to say that the Report upon the Robin has *directly* contributed, as I infer from the extra copies of the Report demanded of me by the legislators while the matter was under advisement by them.

I have been repeatedly asked if there is any way to protect strawberry beds, cherry trees, &c., from the depredations of the robin. In answer, I will merely suggest, that a neighbor being much annoyed by them, I gave

him a stuffed cat from my cabinet and requested him to mount it upon a stool in the midst of his strawberry bed of perhaps thirty feet square and note the result. Some days afterward he told me it effectually protected the fruit, and I therefore recommend others to try the same remedy; or perhaps better, substitute a living cat, hung up in a wire cage, and thus turn the surplus of the feline race to some profitable account.

When first elected to the Professorship of Zoölogy connected with your Society, about three years ago, I supposed there were specific duties involved in the office, and that the different members would propose a variety of researches to me, as your servant in that department. But as yet hardly a question has been proposed to me by a single member. Feeling unwilling to hold any office that is in effect a sinecure, I herewith desire the members of the Society to forward to me at Middleboro', by express, any specimens of Natural History that may be found injurious, with whose habits they may not be familiar, with such observations as they themselves have made; and, at the earliest possible opportunity, I will report at a monthly or quarterly meeting. I desire that my Professorship shall not be a mere ornamental appendage to the Society—but not being a practical horticulturist, I can only hold myself ready for service at your bidding. The forthcoming revised edition of "Dr. Harris's Treatise," and the most excellent Reports of Dr. Fitch, of New York State, on "Noxious Insects," preclude the necessity of minute investigation in that branch of Natural History. But there are questions connected with the habits of other than insects, that must suggest themselves to the observing horticulturist, and occasion more or less anxiety to have solved according to the facts of nature. Let such be communicated to me by mail, at any time, and they shall receive prompt attention according to the best of my ability, and perhaps some new field will be opened for exploration, connected, it may be, with the habits of the smaller quadrupeds and reptiles.

Respectfully submitted. J. W. P. Jenks.

PRESIDENT BRECK'S ADDRESS.

GENTLEMEN:

Another year has passed away, and we are again permitted to greet each other with a happy new year, and renew our assurance of coöperation and union in the work for which our Society was organized, and to which many of us have been for so many years devoted.

We cannot, however, meet together to commence the business of the year, without strong feelings of sadness, as we call to remembrance the beloved and active members of our Society, who, in the providence of God, have been called from their labors, and whose chairs are to-day vacant. With these faithful and devoted friends and active members, we have been accustomed, for a long series of years, to meet from week to week to exchange salutations, and to receive their counsels of wisdom and instruction; and through them we have felt our hands strengthened and our hearts encouraged.

The decease of Josiah Bradlee, Esq., was announced at the commencement of last year,—a gentleman whom we shall ever remember as a liberal benefactor and devoted friend of our Society.

A few months after, we were called to mourn the loss of our invaluable friend, the Hon. B. V. French, one of the original founders of the Massachusetts Horticultural Society, and who never failed, to the day of his death, to take the deepest interest in its prosperity. Who that knew him, can ever forget the enthusiasm ever uppermost in his mind on the subject of horticulture, agriculture, or anything connected with the cultivation of the soil.

The departure of Enoch Bartlett, Esq., in a good old age, having passed the time allotted to man on earth, was not so marked a loss to the members of the Society, who only knew him as one from whom one of our most popular pears received its American name, but who, nevertheless, was one that those more advanced in life highly appreciated for his activity and interest in the Society in the earlier stages of its history.

The mild and modest Sumner was hardly known, except to his immediate circle of friends, but he might have been often seen in the rooms passing from stand to stand of flowers, admiring everything new and beautiful—evidently enjoying all the productions exhibited with a keen delight; but, like the flower of the field, he has also faded away, and we shall see his face no more.

We hoped, almost against hope, that we should not be called upon again to mourn the loss of another of our most valuable and highly esteemed associates during the year, already so remarkable for the impress of the fell destroyer upon the ranks of our Society. But those of us who were privileged with a more intimate communion and exchange of feelings with our beloved Walker, could hardly be made to feel otherwise than that his work on earth was about to cease, though unwilling to believe that he

would so soon and suddenly be taken from earth to his mansion in heaven. We shall ever regard him as one of the bright lights of our Society. He served us in almost every capacity, in the standing committees and other important offices and trusts, and, when he retired from the presidential chair,—which he filled with great ability for a succession of years,—he still continued to labor for the Society, being placed on most of the prominent special and important committees, and died at last in working order, with the harness on, an example to us all. It is but a few weeks since he sat in the chair at my right hand, as deeply interested in the welfare of the Society as in his younger days in the flush of health. I do not feel competent, nor is it necessary to speak more particularly of him we so much loved, as it is but a few weeks since able and touching tributes were paid to his memory by our esteemed associates, Messrs. Wilder and Rand.

We mourn the loss of our companions and friends, and may well exclaim, Who shall fill their places in the Society? They have finished their work, they have gone to their rest, and "the places that have known them shall know them no more forever."

But, gentlemen, if we are mortal and must one after another pass away, we are to remember that our Society is to be perpetuated, and, as we hope, flourish for ages to come, when we shall sleep in the dust with those who have gone before us. As we are now among the living, we have our appropriate work to perform, and must, for the year to come, stand in our respective places, ready to discharge the duties which devolve upon us, bearing up the institution upon our shoulders, until others succeed and follow us in our labors, who will again in their turn be succeeded by others to the distant future.

In noting the operations of the Society for the past year, there is nothing of marked interest to communicate, other than what will be found in the reports of the various committees, which will soon be printed and placed in your hands for perusal.

The transfer of the head-quarters of our Society from the building we owned and occupied in School Street to the present place, is a change which I believe is acceptable to a great majority of the members. This room, for business and the accommodation of the library, far surpasses, in convenience, the room in the old building used for the same purposes. We have here light, air, comfort, and every convenience. Thanks are due to our Librarian for the neatness and order in which we always find the place; and as it is open every business day of the week, in certain hours, it affords good opportunities for the members who have leisure to pass a few hours, to consult the numerous periodicals with which our reading desk is so abundantly supplied. The hall we now occupy has been found to answer all its requirements for the weekly exhibitions through the summer, and might have accommodated many more than have generally been in attendance to witness the brilliant displays of the season. The rooms for the reception of fruit preparatory for exhibition in the hall, and the room for the Fruit Committee, are both convenient. Taking all the accommodations together, I believe we have never been more pleasantly situated than we

are at the present time. If we can content ourselves in this place until the expiration of our lease, we may by that time find a convenient locality, when we may erect an edifice commensurate with the wants and means of the Society.

The state of our finances is highly satisfactory, as will be perceived by the report of the Treasurer. The receipts from Mount Auburn will fall somewhat short of the amount we received last year, which, after deducting the sum of $1.500 voted by the Society towards the improvements now in progress there, will probably reduce the amount to be received into our treasury to about $3,500. It is to be hoped that our ample resources will not be encroached upon at present for any other than our ordinary expenditures.

Two years since, a committee was appointed to petition the legislature, in connection with the Boston Natural History Society and other scientific associations, for a reservation of a part or whole of three sections of the Back Bay lands, of about three acres each, for the accommodation of these various associations, on which to erect buildings, and for other purposes that might be required for the advancement of horticulture, agriculture, the ornamental arts, and to science in its application to the various purposes of life. The various societies and associations were represented by their respective committees and agents, before the committee on the Back Bay lands, who gave a patient hearing; but our united efforts were unavailing.

The same committee, with some additional members, were appointed, in December, 1859, to take the same subject into consideration, and to report at a future meeting. Of this number, our lamented deceased friends, Walker and French, were included. At a regular meeting of the Society, held December 31, 1859, the Hon. Marshall P. Wilder submitted a paper, signed by all the members of the committee (nine in number), which might be used in a memorial to the legislature for a reservation of lands on the Back Bay. The memorial was accepted, and the same committee having in charge the matter were instructed to present it. You will find this document (page 115) in the report of our transactions for 1859. This committee, with the representatives from other scientific societies, had successive hearings before the joint committee on education at the State House, when interesting addresses and statements were presented, by Professor Rogers and other scientific and practical gentlemen, upon the importance of congregating together, upon these sections on the Back Bay, all these various institutions, not merely for the benefit of our city and these societies, but for scientific, educational, agricultural, and commercial purposes for the whole Commonwealth and Union,—institutions which would command respect throughout the scientific world. The legislative committee gave a patient and attentive hearing, which resulted in bringing in a bill granting a portion of the land petitioned for, which passed unanimously in the house, but was defeated in the senate.

This same committee was appointed again to consider the subject of a further trial before the legislature at the present session, and were instructed to report to the Society what action, if any, should be taken in relation to

the petition already sent in by the Presidents of the Boston Natural History Society and our own. This committee made their report two weeks since, and which now awaits the action of the Society.

The whole scheme may, perhaps, appear to some Quixotic; but if we have a continuation of the unexampled increase and prosperity of our country, we may reasonably believe that the Back Bay will, in a few years, become the most prominent and attractive part of the city; and when these sections we desire to be reserved are surrounded with elegant residences, no doubt liberal subscriptions will be readily made, if needed, to sustain the institutions which we hope will be established there.

The present aspect of the affairs of our country have so affected my own mind, that I must confess I have some misgivings about the rapid settlement of the Back Bay lands; for, if our worst fears should be realized, there may be such a depreciation of the value of this land, as well as of all other property, that it might about as well have remained from whence the soil or gravel was taken, where the possessor of a farm composed of it was the poorer the more he had of it. God grant that we may have a speedy settlement of all our difficulties. Yet, with the present existing uncertainty of public affairs, my courage rather fails me, and I feel almost inclined to recede from the stand I have hitherto taken. No doubt our Society will be disposed to use all their influence in aiding and assisting the other associations, but I trust we shall not commit ourselves to any course that will involve us in any very heavy expense.

A few remarks were made last year, in the opening address, relative to the season, in its effects upon horticultural products, though perhaps it may have been out of place; yet I cannot refrain from alluding, now, to some of the peculiarities of the past season, which has been a remarkable one. From the 1st of March to the 1st of June, scarcely any rain fell. It was excessively dry, cold, and backward. Very disagreeable, cold, easterly winds prevailed for twenty-eight days, without intermission or change, to the middle of May. From that time to the 1st of June the weather was warmer and mild—very favorable for a successful bloom, which was abundant, and fruit of all kinds set remarkably well. June was cold, with a great amount of rainy weather, particularly near its close.

Strawberries were very much injured by excessive rain, the fruit lacking flavor, and unusually acid. Cherries promised to be plenty, but some disease occasioned a blight just as they began to ripen; the crop was light, and very few really good ones. We had the satisfaction of noting an unusual scarcity of caterpillars. Canker worms seemed to have entirely disappeared, and very few curculios infested the apple. It was equally remarkable that birds destructive to small fruits were very few in comparison with last year. Apples were very abundant and fair; a very extraordinary crop. Pears were equally abundant, but lacked flavor, and the autumn and winter varieties ripened prematurely, or decayed without ripening. The peach trees promised a fair crop, but the same disease that injured the cherries seemed to affect the peach, and, just as they began

to color, commenced decay; and, while in some places and on some trees the fruit was fine, in others it was a complete failure.

All the summer months were cold and wet, and on the 1st of September the season was at least two weeks behind the average of seasons.

Grapes, which gave abundant promise, were retarded by the cold weather, and the excessive moisture brought on the mildew, which spread rapidly upon the vines, when it began to be doubtful whether any fruit would come to maturity. The severe cold weather on the night of the 29th of September gave the finishing stroke to all hope of any ripened grapes, except in warm, sheltered places. The thermometer fell to 28°, and in some places as low as 22°. In my garden it stood at 24°. Concord grapes, nearly or quite ripe, were completely frozen through, as were the Dianas by their side, which, however, were already hopelessly injured by the mildew. Some of the Isabellas, where well sheltered and partially free from mildew and beginning to color finely, met with the same fate. What is very unusual, the Black Hamburgh and other varieties of foreign grapes, in a cold grapery, were also frostbitten, so that most of them were almost worthless, notwithstanding the house is very close and well made.

The past year has been one of the most prosperous since the formation of the Society, if we may judge from the great number of gentlemen of high respectability who have become associated with us during the season. Sixty-six new members were admitted in 1860; fifteen have ceased their connection with us, and six have died. The whole number at the present time is five hundred and eighty. Of these, two hundred and thirty-five are life, and three hundred and forty-five subscription members. In addition to these, there is a large number of honorary and corresponding members.

Gentlemen: Before concluding these remarks, I wish to express my gratitude and thanks for the kind forbearance and friendly support I have invariably received from you since I have occupied the chair. It was not my intention to have given you an opportunity to place me the third time in this honorable position; but, through the influence of our departed friend Walker, and others, I was persuaded to permit my name to be reported as a candidate once more, and I thank you for the unanimity with which I was elected. Expecting a continuance of your kind forbearance and friendly support, I shall enter upon the duties of another year with more confidence that I shall be able to discharge the duties which devolve upon me in the last term of service in this capacity; but ever happy and willing to take any subordinate office in which I can benefit the Society.

MEMBERS

OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY.

A * DENOTES THE MEMBER AS DECEASED.

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Adams, George E., *Medford.*
Allen, John Fisk, *Salem.*
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Andrews, W. T., "
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Appleton, Nathan, *Boston*
Appleton, Robert, "
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Bailey, John P., "
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Barnard, Rev. C. F., "
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Blodgett, J. W., *Boston.*
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Bowditch, J. Ingersoll, *Roxbury.*
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*Bradlee, Joseph P., "
*Bradlee, Josiah, "
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Breed, Henry A., "
*Brewer, Eliab Stone, *Roxbury.*
Brewer, Gardner, *Boston.*
Brewer, John Reed, "
Brewer, Otis, *Roxbury.*
*Brewer, Thomas, *Boston.*
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Brown, Ebenezer, *Lynn.*
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Burr, M. H., "

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Chase, Hezekiah, *South Boston.*
Chase, Wm. M., *Worcester.*
Childs, N. R., *Dorchester.*
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Clapp, Thaddeus, *Dorchester.*
Clark, W. L., *Neponset.*
Clement, Asa, *Dracut.*

Cleveland, Ira, *Dedham.*
*Codman, John, *Dorchester.*
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Courtis, William, *Marblehead.*
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Cushing, Thomas T., "

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Dana, Nathaniel, "
*Decker, Louis, *Boston.*
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*Denny, George, *Westborough.*
Denny, R. S., *Dorchester.*
Dexter, G. M., *Boston.*
Dickinson, Alexander, *Cambridgeport.*
Downer, Samuel, *Dorchester.*
Duncklee, John, *Brighton.*
Durfee, Mrs. F. B., *Fall River.*
*Durfee, Geo. B., "
Durfee, Nathan, "

*Edwards, Elisha, *Springfield.*
Eliot, Samuel A., *Boston.*
Everett, Otis, "

*Fairbanks, H. P., *Charlestown.*
Fairbanks, Stephen, *Boston.*
Fearing, Albert, "
*Fenno, John, *Chelsea.*
Fisher, Daniel Simmons, *Roxbury.*
Fisher, Warren, "
*Fiske, Oliver, *Worcester.*
Foster, John H., *Boston.*
Foster, J. W., *Dorchester.*
*French, Benj. V., "
French, Jonathan, *Roxbury.*
Frothingham, S. C., *Boston.*
Fuller, Henry Weld, *Roxbury.*

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Gage, Addison, *West Cambridge.*
Gardner, W. F., *Salem.*
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*Gilmore, Addison, "
Greig, George, *Newton.*
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Groom, Thomas, *Dorchester.*
Grundell, H., "

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*Harris, William T., *Cambridge.*
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*Hedge, Isaac L., *Plymouth.*
Hazeltine, H., *Boston.*
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Hollis, J. W., *Brighton.*
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Hooper, Robert C., *Boston.*
Hovey, C. M., *Cambridge.*
Hovey, P. B., *Cambridgeport.*
Howe, George, *Roxbury.*
*Howe, Hall J., *South Boston.*
Howe, Jabez C., *Boston.*
Howe, John, *Brookline.*
Howland, Henry, *Malden.*
Howland, John, Jr., *New Bedford.*
Hubbard, G. G., *Cambridge.*
Hubbard, W. J., *Boston.*
Huckins, James W., *Roxbury.*
Humphrey, F. J., *Dorchester.*
Hunnewell, H. H., *West Needham.*

Jones, C. F., *Roxbury.*
*Jones, Thomas, *Boston.*
Johnson, Otis, *Lynn.*

Kendall, D. S., *Boston.*
Kenney, John M., *Wareham.*
Kimball, A. P., *Boston.*
King, Edward, *Dorchester.*
King, Franklin, "
King, William S., *Roxbury.*
Kingsbury, Wm. B., "
Kinsley, Lyman, *Cambridgeport.*
Kittredge, E. A., *Boston.*

Lamb, Thomas, *Boston.*
Lawrence, James, "
Lawson, Peter, *Dracut.*
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Lee, George, *Watertown.*
Leland, George, *Waltham.*
Leuchars, R. B., *Quincy.*
Lewis, A. S., *Framingham.*
Lewis, Wm. G., "
Lincoln, Levi, *Worcester.*
*Lincoln, William, "
Lincoln, D. Waldo, "
*Loyd, James, *Boston.*
Lodge, Giles H., "
Lombard, I., "
Lothrop, Ed. W., *Chelsea.*
Lovett, G. A., *Beverly.*
Lowder, John, *Watertown.*
Luke, Elijah H., *Cambridgeport.*
Lyon, Henry, *Charlestown.*

Mann, Jonathan, *Cambridge.*
Manning, Joseph, *Medford.*
Manning, Robert, *Salem.*
Mansfield, H. S., *Blackstone.*
March, Francis, *Dedham.*
Marland, A., *Andover.*
*Marsh, Andrew S., *Roxbury.*
Martin, J. S., *Boston.*
*Martin, Richard T., "
May, Samuel, "
Merriam, Charles, *West Newton.*
Merrifield, W. T., *Worcester.*
Mills, Charles H., *Boston.*
Milton, W. H., *Roxbury.*
Minott, Charles, *Somerville.*
Mixter, Charles, *Boston.*
Morse, S. B., "
*Morse, Samuel F., "
Motley, Thomas, Jr., *W. Roxbury.*
Mudge, George A., *Boston.*
Mudge, E. R., *Lynn.*
Mudge, Geo. W., "

Newhall, Cheever, *Dorchester.*
Newhall, George, "
Newhall, John M., "
Newhall, Josiah, *Lynnfield.*
Newman, Henry, *Roxbury.*
Nourse, B. F., *Boston.*
*Nuttall, Thomas, *of England.*

Page, Thomas, *Cambridge.*
Paige, James W., *Boston.*
Paine, Robert T., "
Palmer, J. P., "
Parker, Augustus, *Roxbury.*
*Parker, Daniel P., *Boston.*
Parker, James, "
Parker, William A., "
Parkman, Francis, *Roxbury.*
*Parkman, Rev. Francis, *Boston.*
*Parsons, Gorham, *Brighton.*
*Parsons, William, *Boston.*
Partridge, Henry, "
Peirce, S. B., *Dorchester.*
Penniman, A. P., *Waltham.*
Perkins, Ed. N., *Brookline,*
Perkins, Wm. P., "
*Perry, John, *Sherborn.*
Pierce, George W., *Malden.*
Poole, Benjamin C., *Chelsea.*
Poor, John R., *Somerville.*
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Preston, John, *Dorchester.*

Rand, E. S., *Dedham.*
Rand, E. S., Jr., "
Reed, George W., *Kingston.*
Reynoso, Bernard de, *S. Boston.*
Richards, Edward M., *Dedham.*
Richards, William B., *Boston.*
Robinson, J. H., *Dorchester.*
*Rotch, William, *New Bedford.*
Russell, George R., *Roxbury.*
Russell, John Lewis, *Salem.*

Sampson, G. R., *Brookline.*
Sanford, O. S., *Cordaville.*
Sargent, Ignatius, *Brookline.*
*Seaver, Nathaniel, *Roxbury.*
Sever, J. W., *Dorchester.*

*Shaw, Robert G., *Boston.*
Sheafe, Ch. C., *Newtonville.*
*Silsby, Enoch, *Bradford.*
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*Smith, Stephen H., *Providence.*
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Springer, John, *Sterling.*
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Stickney, Rufus B., *Somerville.*
Stimpson, George, *Charlestown.*
Stone, G. F., *Newton.*
Stone, Phineas J., *Charlestown.*
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Story, F. H., *Salem.*
*Story, Joseph, *Cambridge.*
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Swain, Ch. D., *Roxbury.*

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Taylor, Horace B., "
*Teschemacher, J. E., "
Thacker, Alfred C., *Dorchester.*
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*Thayer, J. E., "
*Thorndike, Israel, "
Thorndike, John H., "
*Towle, Lyman, "
*Tremlett, Thomas, *Dorchester.*
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Turner, R. W., Jr., *Randolph.*
Upton, George B., *Boston.*

Wainwright, Peter, *Boston.*
Wainwright, William L., *Braintree.*
Wakefield, E. H., *Chelsea.*
*Waldo, Daniel, *Worcester.*
Walker, Edward C. R., *Roxbury.*
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Walker, Samuel A., *Brookline.*
Walker, T. W., *Waltham.*
Warren, G. W., *Boston.*
Wason, E., *Brookline.*
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Webster, Joshua, *Lynn.*
Webster, Nathan, *Haverhill.*
Weld, Richard H., *Roxbury.*
Welsh, J. H., *Dorchester.*
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Whiting, Nathaniel, *Brookline.*
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Wight, Eben., *Dedham.*
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Williams, Aaron D., *Roxbury.*
Williams, Aaron D., Jr., "
Williams, Moses B., *Brookline.*
Winship, Franklin, *Brighton.*
Winship, F. Lyman, "
Wolcott, Edward, *Pawtucket.*
*Worthington, William, *Dorchester.*

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Adams, Joseph H., "
Adams, Isaac, *South Boston.*
*Adams, Z. B., *Boston.*
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Allen, Calvin, *Roxbury.*
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*Andrew, John H., *Salem.*
Andrews, Alfred A., *Boston.*
*Andrews, Ebenezer T., "
*Andrews, Ferdinand, "
Andrews, James, *Waltham.*
*Andrews, Robert, *Boston.*
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Appleton, Samuel A., *Boston.*
*Arnold, John, *Dorchester.*

Bachelder, Samuel, *Cambridge.*

*Bachi, I. C., *Dorchester.*
Bacon, William, *Roxbury.*
Bailey, Dudley H., *Boston.*
Bailey, Kendall, *Charlestown.*
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Baker, W. P., *Quincy.*
*Balch, Joseph, *Roxbury.*
Barnes, Parker, *Dorchester.*
*Barrett, George C., *Boston.*
*Bartlett, Enoch, *Roxbury.*
Bartlett, Levi, *Boston.*
Bean, James, *Medford.*
*Belknap, A. E., *Boston.*
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Binney, Amos, *Boston.*
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Bliss, B. K., *Springfield.*
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Boyd, Francis, *Boston.*
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Bradlee, John D., *Milton.*
*Bradlee, Joseph, *Boston.*
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Bradley, Benjamin, "
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Breck, Joseph, "
*Bridge, Nathan, *Charlestown.*
Briggs, Richard, *Brookline.*
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Brown, Joseph T., *Boston.*
Brown, Simon, *Concord.*
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Buckman, Bowen, *Woburn.*
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Bullard, Lewis, *Dedham.*
Burley, Edward, *Salem.*
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Burr, Charles C., *Newton.*
Busch, John W., *Brookline.*
Buswell, E. W., *Malden.*
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Cabot, Joseph S., *Salem.*
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Chaffin, John C., *Newton.*
Chandler, Horace B., *Milton.*
Chandler, J. G., *Roxbury.*
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*Chickering, Jonas, *Boston.*
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Clapp, W. W., Jr., "
Clark, E. D., "
Clark, John J., *Roxbury.*
Clark, Joseph W., *Dedham.*
Clark, Randolph M., "
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Cobb, Jonathan H., *Dedham.*
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Converse, Joshua P., *Woburn.*
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*Crowninshield, George C., "
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Cummings, Amos, Jr., *Reading.*
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Gilchrist, D. S., "
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Grant, E. B., *Watertown.*
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*Gray, John, *Boston.*
Gray, John C., "
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*Greenough, David S., " "
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*Guild, Benjamin, *Boston.*
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*Harris, Richard D., *Boston.*
Harris, William A., *Newton.*

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Hatch, Samuel, *Boston.*
Hathaway, Seth W., *Marblehead.*
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Hazelton, H. L., *Newton.*
Healey, Mark, *Lynn.*
*Heard, John, *Boston.*
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Henshaw, Samuel, *Boston.*
Heustis, Warren, *Belmont.*
*Hewens, Whiting, *Roxbury.*
Hewins, Charles A., "
*Higginson, Henry, *Boston.*
Hill, Henry Y., *Belmont.*
Hill, James, *Somerville.*
Hill, Jeremiah, *Boston.*
Hill, John, "
Hogan, John, *Belmont.*
*Holbrook, Amos, *Milton.*
Horton, Henry K., *Boston.*
Hosmer, Z., *Cambridge.*
*Hovey, John, *Roxbury.*
Hovey, J. C., *Cambridgeport.*
*Howard, John C., *Brookline.*
Howe, Estes, *Cambridge.*
Howe, Joseph N., *East Cambridge.*
Howe, Rufus, *Marlborough.*
Howe, S. G., *South Boston.*
Hunneman, J. J., *Roxbury.*
Hyde, George, *Newton.*
Hyde, J. F. C., "
*Hysop, David, *Brookline.*

Jenks, J. H., *Boston.*
Jennings, Levi, *Newton, L. F.*
*Johnson, Samuel R., *Charlestown.*
*Johnston, William, *South Boston.*
Jones, James L., *Chelsea.*
*Joy, Joseph G., *Boston.*

Keith, W. W., *Boston.*
Kelley, E. G., *Newburyport.*
Kelly, John, *Watertown.*
Kennard, M. P., *Brookline.*
Kenrick, John A., *Newton.*
Kenrick, William, "
Kimball, Charles, *Winchester.*
Kittredge, Alvah, *Roxbury.*
Knott, James, *Boston.*

Ladd, William G., *Watertown.*
*Lamb, John A. W., *Boston.*
Lamson, Rufus, *Cambridgeport.*
Lathrop, John, *Dedham.*
*Lawrence, Abbott, *Boston.*
*Lawrence, Amos, "
Lawton, Walter, *Brookline.*
Lee, Francis H., "
Lee, Francis H., *Salem.*
Lee, Thomas, *Brookline.*
Leeds, Samuel, *South Boston.*
*Lemist, John, *Roxbury.*
Leonard, Joseph, *Boston.*
Lerned, T. P., *Cambridgeport.*
Lincoln, Calvin A., *Hingham.*
Lincoln, F. W., *Canton.*
Lincoln, F. W., Jr., *Boston.*
Little, C. C., "
Livermore, Isaac, *Cambridgeport.*
Lockwood, R. G., *Charlestown.*
*Loring, Benjamin, *Boston.*
Loring, C. G., "
*Loring, Wm. J., "
*Lovett, Josiah, *Beverly.*
Low, Ariel, *Roxbury.*
Low, John J., "
*Lowell, John, "
*Lowell, William B., *Newton.*
Lynde, Stephen H., *Winchester.*

*Mackay, John, *Boston.*
Manning, J. W., *Reading.*
*Manning, Robert, *Salem.*
Martin, D. U., *Boston.*
Martin, Jeremiah, *Melrose.*
Mason, John, *Cambridgeport.*
*Mayhew, A. C., *Boston.*
McDermott, Andrew, *Roxbury.*
*McIntire, Daniel, *Framingham.*
McLellan, Alexander, *Watertown.*
McTear, James, *Roxbury.*
*Mellar, William, "
Merriam, Galen, *West Newton.*

Merrill, S. A., *Salem.*
Merrill, J. Warren, *Cambridgeport.*
Millar, John L., *Boston.*
Miller, David, *South Boston.*
*Miller, Edward, *Boston.*
Mills, Lewis, "
*Minns, Thomas, "
Minot, G. R., *Roxbury.*
*Morgan, Thomas, *Boston.*
Moore, J. B., *Concord.*
Morse, O. S., *Andover.*
Morse, Robert M., *Boston.*
*Munroe, James, Jr., *Cambridge.*
Murray, Dennis, *Roxbury.*
Murray, James, "

*Newell, Joseph W., *Charlestown.*
Nichols, W. S., *Roxbury.*
*Nicholson, Com., (U. S. N.)
Nudd, Jacob, *Cambridgeport.*
Nugent, James, *Roxbury.*

Oliver, H. K., *Lawrence.*
Oliver, Stephen, *Lynn.*
*Oliver, William, *Dorchester.*
*Otis, Harrison Gray, *Boston.*
Owen, John, *Cambridge.*

Page, Edward, *Boston.*
Page, J. H. W., *Dorchester.*
Palmer, G. W., *Needham.*
Parker, Harvey D., *Boston.*
*Parker, Isaac, "
Parker, M. S., "
Parker, Theodore D., *Brighton.*
*Parris, Alexander, *Pembroke.*
Parsons, Theophilus, *Cambridge.*
Payson, Samuel R., *Roxbury.*
Pearman, W. R., *Chelsea.*
*Penniman, Elisha, *Brookline.*
*Perkins, Thomas H., *Boston.*
*Pettee, Otis, *Newton.*
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Phipps, Samuel, *Dorchester.*
Pierce, Abner, *West Cambridge.*
*Pond, Samuel, *Cambridgeport.*
*Pope, Rev. A. R., *Somerville.*
Porter, Andrew, *South Danvers.*
Porter, Z. B., *Cambridge.*
*Pratt, William, Jr., *Watertown.*
Prescott, Eben. C., *Boston.*
*Prescott, William, "
*Priest, John F., "
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*Prince, John, *Roxbury.*

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Rand, I. P., *Boston.*
Rice, Edward E., *Dorchester.*
Rice, George W., *Roxbury.*
Rice, Henry, *Boston.*
Rice, Thomas, Jr., *Newton, L. F.*
*Richardson, Josiah, *Cambridge.*
Rivers, George H., *Roxbury.*
*Robbins, Charles, *South Boston.*
*Robbins, Edward H., *Boston.*
Roberts, Edward, *Roxbury.*
Robinson, S., *Brookline.*
*Rollins, Ebenezer, *Boston.*
*Rowe, Joseph, *Milton.*
Ryder, Rev. W. H., *Roxbury.*

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*Schimming, H., *Watertown.*
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Shaw, Christopher C., *Boston.*
Shaw, Lemuel, "
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Simpson, Michael H., *Saxonville.*
*Skinner, John, *Charlestown.*
Sleeper, J. S., *Roxbury.*
Smallwood, Thomas, *Newton.*
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Smith, Edmund, *Brighton.*
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Southack, George, *Roxbury*
Spooner, Wm. H., Jr., *West Roxbury.*
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*Stevens, Isaac, *Boston.*
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Stone, Leonard, *Watertown.*
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Thatcher, Thomas, Jr., *Roxbury.*
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Turner, R. W., *South Malden.*
Tuttle, Hugh H., *Boston.*
*Tyler, John, "

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Underwood, Wm. J., "

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Vila, James, *Boston.*
*Vose, Elijah, *Dorchester.*

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Washburn, Allen J., *Dorchester.*
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White, Nathan H., "
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